GENERAL NOTES:

CONDUCT SITE CLEARING OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION. STREETS AND ROADWAYS SHALL BE THOROUGHLY CLEANED AND/OR SWEPT ON A DAILY BASIS OR MORE FREQUENTLY AS REQUIRED BY THE GOVERNING AUTHORITY. RESTORE DAMAGED IMPROVEMENTS TO ORIGINAL CONDITION AS ACCEPTABLE TO PARTIES HAVING JURISDICTION.

PROVIDE DUST CONTROL MEASURES IN ACCORDANCE WITH IDEM AND CITY OF FRANKLIN REQUIREMENTS.

ALL STREET SURFACES, DRIVEWAYS, CULVERTS, ROADSIDE DRAINAGE DITCHES AND OTHER STRUCTURES THAT ARE DISTURBED OR DAMAGED IN ANY MANNER AS A RESULT OF CONSTRUCTION SHALL BE REPLACED IN ACCORDANCE WITH SPECIFICATIONS.

UNLESS SPECIFIED OTHERWISE, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT QUALITY STANDARDS, INDIANA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND/OR THE CITY OF FRANKLIN REQUIREMENTS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS, PERMIT FEES, LICENSES, AND LICENSE FEES, UNLESS NOTED OTHERWISE.

RELOCATION OF ANY UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROPRIATE UTILITY COMPANY AND/OR REGULATORY AGENCY. OBTAIN WRITTEN APPROVAL FROM THE ENGINEER BEFORE ANY UTILITY RELOCATION.

ELECTRONIC FILES IN DWG FORMAT WILL BE SUPPLIED TO THE CONSTRUCTION MANAGER FOR LAYOUT AND GRADING.

LOCAL UTILITY LOCATING AGENCY:

ALL CONTRACTORS SHALL NOTIFY UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING OF THE INTENT TO EXCAVATE NO LESS THAN 72 HOURS PRIOR TO SUCH EXCAVATION (EXCLUSIVE OF SATURDAYS, SUNDAYS, AND HOLIDAYS) AND CALL LOCAL UTILITY LOCATING AGENCY AT 811.

EXISTING UTILITY LOCATIONS SHOWN SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. LOCATIONS OF UNDERGROUND UTILITIES ON THESE DRAWINGS ARE APPROXIMATE ONLY AND BASED ON ACTUAL FIELD LOCATIONS OF VISIBLE STRUCTURES AND PLAN COMPUTATIONS.

SURVEY:

EXISTING TOPOGRAPHY IS BASED ON AN ACTUAL FIELD SURVEY PERFORMED BY WOOLPERT, INC., IN FRANKLIN, IN, LAST UPDATED ON 08/09/14.

ENVIRONMENTAL:

REFER TO PHASE I ENVIRONMENTAL SITE ASSESSMENT PREPARED BY PM ENVIRONMENTAL, INC., DATED 09/15/14.

C1 GENERAL NOTES

NTS

ABBREVIATIONS

ARCH	– ARCHITECTURAL	MAT'L	– MATERIAL
BM	– BENCHMARK	MECH	– MECHANICAL
BIT	– BITUMINOUS PAVING	O.C.	– ON CENTER
C	– CONDUIT	P.C.	– POINT OF CURVATURE
CAL	– CALIPER	PE	– POLYETHYLENE
CB	– CATCH BASIN	P.S.I.	– POUNDS PER SQUARE INCH
CONC	– CONCRETE	PT	– POINT OF TANGENCY
C.I.	– CURB ISLAND	PVC	– POLYVINYL CHLORIDE
CIR	– CIRCUIT	PVMT	– PAVEMENT
DIA	– DIAMETER	R	– RADIUS
ELEV	– ELEVATION	RE:	– REFERENCE
EQ	– EQUIVALENT	RCP	– REINFORCED CONCRETE PIPE
ES	– END SECTION	REQ'D	– REQUIRED
FH	– FIRE HYDRANT	R.O.W.	– RIGHT OF WAY
FF	– FINISHED FLOOR	SB	– SOIL BORING
GV&BOX	– GATE VALVE AND BOX	SQ	– SQUARE
GND	– GROUND	STRUC	– STRUCTURAL
H.D.	– HEAVY DUTY	TC	– TOP OF CURB
IE	– INVERT ELEVATION	TP	– TOP OF PAVEMENT
L.D.	– LIGHT DUTY	TS	– TOP OF SLAB
LF	– LINEAR FEET	UC	– UTILITY CROSSING
MAX	– MAXIMUM	UD	– UNDERDRAIN
MIN	– MINIMUM	WWF	– WELDED WIRE FABRIC
MH	– MANHOLE		

LEGEND

- EXISTING MAJOR CONTOUR (730)
- EXISTING MINOR CONTOUR (730)
- NEW MINOR CONTOUR (730)
- NEW MINOR CONTOUR (730)
- CENTER OF DITCH
- LOT LINE (AS PLATTED)
- R.O.W. LINE
- SECTION LINE
- FENCE (x)
- GRAVEL SURFACE
- PAVED SURFACE
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- TURN DOWN CONCRETE SLAB
- SIGN
- SITE LIGHT POLES
- BENCH MARK
- SECTION CORNER
- EASEMENT LINE
- PROPOSED ELEVATION (0.50 TC / 0.00 TP)
- PROPOSED PAVEMENT MARKING (PAINTING)
- PROPOSED BARRIER FREE PARKING
- 8" SAN — SANITARY SEWER & MANHOLE
- WYE & LEAD
- RISER & LEAD
- STANDARD SEWER CLEANOUT
- 12" SD — STORM SEWER & MANHOLE
- CATCH BASIN WITH EROSION CONTROL
- UNDERDRAIN
- 8"WTR — WATER MAIN
- 8"WTR — VALVE & BOX
- METER
- PLUG
- STANDARD FIRE HYDRANT ASSEMBLY
- CURB STOP & BOX
- G — GAS MAIN
- UE — UNDERGROUND ELECTRIC
- UT — UNDERGROUND TELEPHONE
- TELEPHONE PEDESTAL
- CONCRETE SLAB
- HEAVY DUTY ASPHALT
- LIGHT DUTY ASPHALT

A1 LEGEND / ABBREVIATIONS

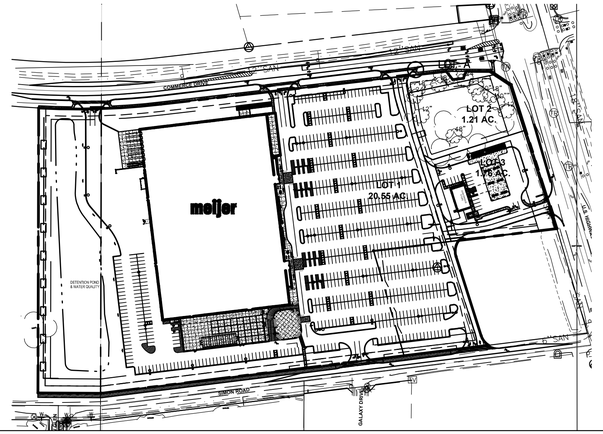
NTS

meijer

Store FRK

Construction Plans

±22.80 ACRES LOCATED IN
SECTION 10, TOWNSHIP 12NORTH, RANGE 4 EAST
CITY OF FRANKLIN, FRANKLIN TOWNSHIP,
JOHNSON COUNTY, INDIANA



SITE ADDRESS:
MAIN STORE: 2390 N. MORTON STREET
GAS STATION: 2354 N. MORTON STREET

B2 OVERALL SITE

NTS

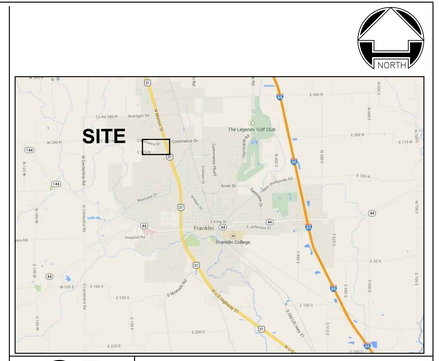
RETAIL STORE DRAWING LIST (DS1.9)

● – 05/14/15	C001	COVER SHEET
● – 05/14/15	C100	EXISTING CONDITIONS/DEMOLITION PLAN
● – 05/14/15	C200	SITE LAYOUT / PAVEMENT PLAN
● – 05/14/15	C201	SITE LAYOUT / PAVEMENT PLAN
● – 05/14/15	C300	SITE GRADING/DRAINAGE PLAN
● – 05/14/15	C301	SITE GRADING/DRAINAGE PLAN
○ – –	C302	STORM WATER POLLUTION PREVENTION PLAN PHASE 1
● – 05/14/15	C303	STORM WATER POLLUTION PREVENTION PLAN PHASE 2
● – 05/14/15	C304	STORM WATER POLLUTION PREVENTION PLAN NOTES
● – 05/14/15	C305	EROSION CONTROL DETAILS
● – 05/14/15	C306	EROSION CONTROL DETAILS
● – 05/14/15	C400	UTILITY PLAN
● – 05/14/15	C401	UTILITY PLAN
● – 05/14/15	C402	STRUCTURE DATA TABLES
● – 05/14/15	C500	STRIPING / SIGNAGE PLAN
● – 05/14/15	C501	EXTERIOR SIGNAGE PLAN AND DETAILS
● – 05/14/15	C502	EXTERIOR SIGNAGE PLAN AND DETAILS
● – 05/14/15	C600	LANDSCAPE PLAN
● – 05/14/15	C601	LANDSCAPE DETAILS
● – 05/14/15	C700	DETAILS
● – 05/14/15	C701	DETAILS
● – 05/14/15	C702	DETAILS
● – 05/14/15	C703	DETAILS
● – 05/14/15	C704	DETAILS
● – 05/14/15	C705	CITY OF FRANKLIN DETAILS
○ – 05/14/15	C800	SITE ELECTRICAL PLAN
● – 05/14/15	C801	SITE PHOTOMETRIC PLAN
● – 05/14/15	C802	SITE ELECTRICAL DETAILS

SHEET INDEX LEGEND

○ XX/XX/XX
- MOST RECENT ISSUE DATE
- LATEST REVISION NUMBER
- FILLED IN CIRCLE INDICATES DRAWING INCLUDED IN THIS DRAWING SET.

A2 SHEET INDEX



C5 VICINITY MAP

NTS

ZONING

CITY OF FRANKLIN PLANNING DEPARTMENT
JOANNA MYERS
70 EAST MONROE STREET
FRANKLIN, INDIANA 46131
317.736.3631 X1252

ENGINEERING

CITY OF FRANKLIN PLANNING DEPARTMENT
TRAVIS UNDERHILL
70 EAST MONROE STREET
FRANKLIN, INDIANA 46131
317.736.3631 X1260

UTILITIES

FRANKLIN DEPARTMENT OF PUBLIC WORKS (SANITARY)
RICHARD DEWITT
796 SOUTH STATE STREET
FRANKLIN, INDIANA 46131
888.736.3640

INDIANA–AMERICAN WATER COMPANY (WATER)
TROY BRYANT
555 EAST COUNTY LINE ROAD
GREENWOOD, INDIANA 46143
317.264.7718

FIRE

CITY OF FRANKLIN FIRE DEPARTMENT
FIRE CHIEF
JOHN HENDERSON
1800 THORNBURG LANE
FRANKLIN, INDIANA 46131
317.736.3650 X1200

GAS

VECTREN
DAVID SHERRY
600 INDUSTRIAL DRIVE
FRANKLIN, INDIANA 46131
866.203.4284

TELEPHONE

CENTURY LINK
LARRY TALBOT
1147 NORTH MORTON STREET
FRANKLIN, INDIANA 46131
317.736.4863

ELECTRIC

DUKE ENERGY
COREY HAMBLIN
2515 NORTH MORTON STREET
FRANKLIN, INDIANA 46131
812.375.2021

Indiana 811 Know what's below. Call before you dig.

A5 AGENCIES

JONATHAN R. SHEIDLER — REGISTERED — No. 10707500 — STATE OF INDIANA — PROFESSIONAL ENGINEER — 5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
CONSTRUCTION PLANS
2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

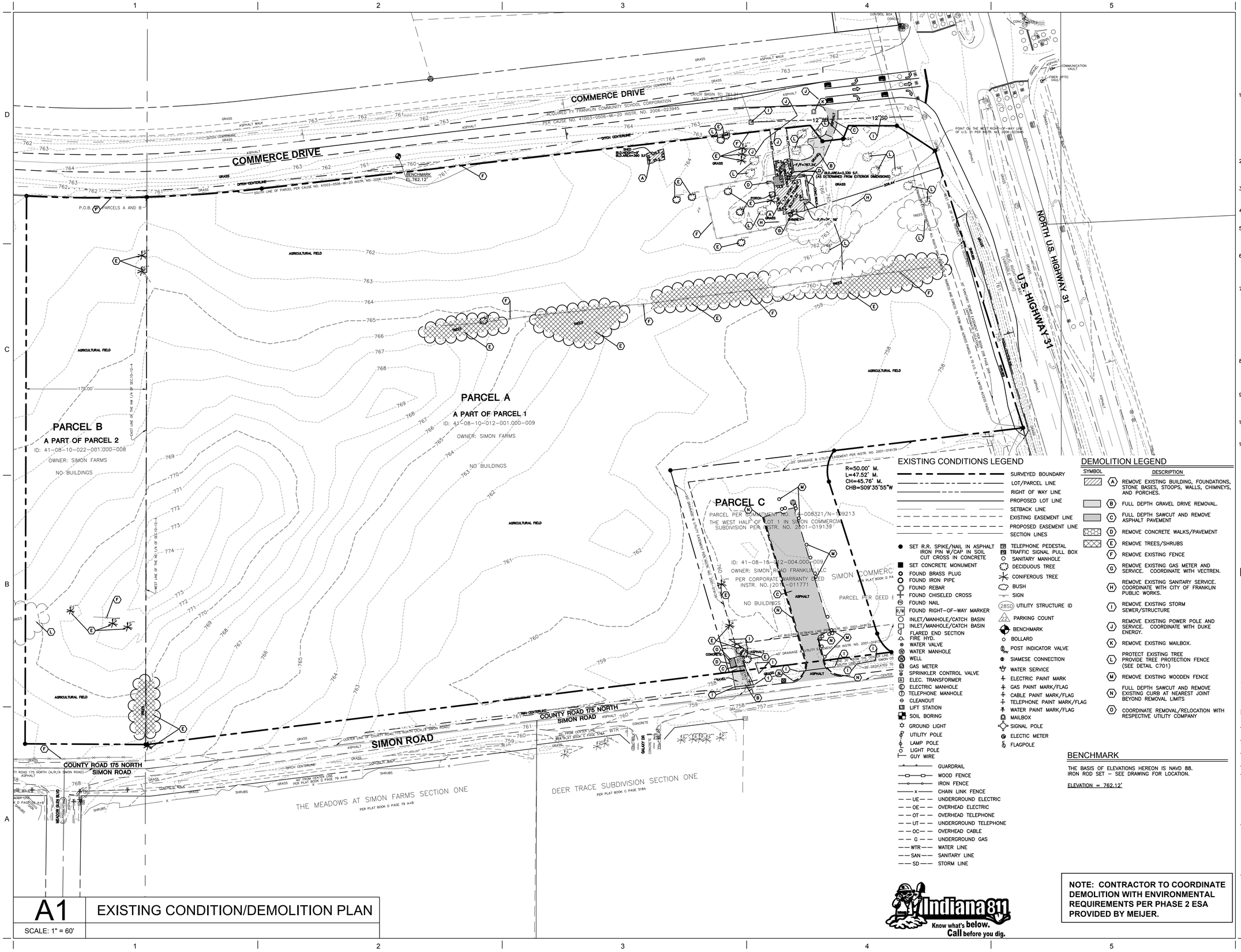
DESIGNED BY:

WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

COVER SHEET

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
KAC	1	05/14/15	C001

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



EXISTING CONDITIONS LEGEND

- SURVEYED BOUNDARY
- LOT/PARCEL LINE
- RIGHT OF WAY LINE
- PROPOSED LOT LINE
- SETBACK LINE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- SECTION LINES
- SET R.R. SPIKE/NAIL IN ASPHALT
- IRON PIN W/CAP IN SOIL
- CUT CROSS IN CONCRETE
- SET CONCRETE MONUMENT
- FOUND BRASS PLUG
- FOUND IRON PIPE
- FOUND REBAR
- FOUND CHISELED CROSS
- FOUND NAIL
- FOUND RIGHT-OF-WAY MARKER
- INLET/MANHOLE/CATCH BASIN
- INLET/MANHOLE/CATCH BASIN
- FLARED END SECTION
- FIRE HYD.
- WATER VALVE
- WATER MANHOLE
- WELL
- GAS METER
- SPRINKLER CONTROL VALVE
- ELEC. TRANSFORMER
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- CLEANOUT
- LIFT STATION
- SOIL BORING
- GROUND LIGHT
- UTILITY POLE
- LAMP POLE
- LIGHT POLE
- GUY WIRE
- TELEPHONE PEDESTAL
- TRAFFIC SIGNAL PULL BOX
- SANITARY MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH
- SIGN
- UTILITY STRUCTURE ID
- PARKING COUNT
- BENCHMARK
- BOLLARD
- POST INDICATOR VALVE
- SIAMESE CONNECTION
- WATER SERVICE
- ELECTRIC PAINT MARK
- GAS PAINT MARK/FLAG
- CABLE PAINT MARK/FLAG
- TELEPHONE PAINT MARK/FLAG
- WATER PAINT MARK/FLAG
- MAILBOX
- SIGNAL POLE
- ELECTIC METER
- FLAGPOLE
- GUARDRAIL
- WOOD FENCE
- IRON FENCE
- CHAIN LINK FENCE
- UE — UNDERGROUND ELECTRIC
- OE — OVERHEAD ELECTRIC
- OT — OVERHEAD TELEPHONE
- UT — UNDERGROUND TELEPHONE
- OC — OVERHEAD CABLE
- G — UNDERGROUND GAS
- WTR — WATER LINE
- SAN — SANITARY LINE
- SD — STORM LINE

DEMOLITION LEGEND

SYMBOL		DESCRIPTION
	A	REMOVE EXISTING BUILDING, FOUNDATIONS, STONE BASES, STOOPS, WALLS, CHIMNEYS, AND PORCHES.
	B	FULL DEPTH GRAVEL DRIVE REMOVAL.
	C	FULL DEPTH SAWCUT AND REMOVE ASPHALT PAVEMENT
	D	REMOVE CONCRETE WALKS/PAVEMENT
	E	REMOVE TREES/SHRUBS
	F	REMOVE EXISTING FENCE
	G	REMOVE EXISTING GAS METER AND SERVICE. COORDINATE WITH VECTREN.
	H	REMOVE EXISTING SANITARY SERVICE. COORDINATE WITH CITY OF FRANKLIN PUBLIC WORKS.
	I	REMOVE EXISTING STORM SEWER/STRUCTURE
	J	REMOVE EXISTING POWER POLE AND SERVICE. COORDINATE WITH DUKE ENERGY.
	K	REMOVE EXISTING MAILBOX.
	L	PROTECT EXISTING TREE PROVIDE TREE PROTECTION FENCE (SEE DETAIL C701)
	M	REMOVE EXISTING WOODEN FENCE
	N	FULL DEPTH SAWCUT AND REMOVE EXISTING CURB AT NEAREST JOINT BEYOND REMOVAL LIMITS
	O	COORDINATE REMOVAL/RELOCATION WITH RESPECTIVE UTILITY COMPANY

BENCHMARK

THE BASIS OF ELEVATIONS HEREON IS NAVD 88.
IRON ROD SET – SEE DRAWING FOR LOCATION.

ELEVATION = 762.12'

NOTE: CONTRACTOR TO COORDINATE DEMOLITION WITH ENVIRONMENTAL REQUIREMENTS PER PHASE 2 ESA PROVIDED BY MEIJER.

Indiana 811 Know what's below. Call before you dig.

NORTH

0 60 120 180

GRAPHIC SCALE IN FEET

GENERAL NOTES

1. EXISTING UNDERGROUND UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS ACCORDING TO AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE PRESENCE, LOCATION AND DEPTH OF THE EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE TO THE UTILITIES DURING PROBING OR CONSTRUCTION. COORDINATE ANY EXCAVATION, RELOCATION WITH RESPECTIVE UTILITY COMPANIES. DO NOT INTERRUPT EXISTING UTILITIES IN USE, DURING OCCUPIED HOURS, EXCEPT WHEN PERMITTING. COORDINATE RELOCATIONS WITH ENGINEER.
2. EXISTING ELECTRIC AND TELEPHONE LINES SHOWN TO BE REMOVED THAT ARE LOCATED OUTSIDE THE LIMITS OF PROPOSED PAVEMENT MAY BE CUT AND ABANDONED IN PLACE. COORDINATE WITH UTILITY COMPANIES.
3. ALL COSTS INCURRED IN COORDINATION OF ALL NEW UTILITY SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE REMOVAL AND DEMOLITION OF EXISTING FACILITIES ARE THE CONTRACTOR'S RESPONSIBILITY.
5. ALL EXISTING ASPHALT/CONCRETE PAVEMENTS, TREES AND BRUSH ARE TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF IN A LEGAL MANNER IN ACCORDANCE WITH LOCAL REGULATIONS.
6. REMOVAL OF EXISTING CONCRETE AND ASPHALT PAVEMENT INDICATED ON PLANS SHALL INCLUDE ALL BASE MATERIALS TO EXISTING SUBGRADE. SAWCUT ALL EXISTING PAVED AREAS SHOWN TO BE REMOVED. ALL CUTS SHALL BE CLEAN, NEAT AND TRUE TO LINE.
7. ROAD, ROAD SHOULDERS, ROAD PAVEMENT, PARKING PAVEMENT, CURBS, DRIVEWAYS, SIDEWALKS, DITCHES, DRAINAGE PIPES AND STRUCTURES, FENCES, LAWNS, TREES, BUSHES, MAILBOXES, STREET AND PUBLIC SIGNS, ADVERTISEMENT SIGNS, ETC., DAMAGED DURING CONSTRUCTION SHALL BE RESTORED, RECONSTRUCTED, REPLACED, OR PROTECTED BY THE CONTRACTOR AT HIS EXPENSE. ALL DAMAGES TO EXISTING IMPROVEMENTS, EXCAVATION, AND/OR REMOVAL OF ANY AND ALL EXISTING IMPROVEMENTS SHALL BE KEPT TO A MINIMUM AND RESTORED OR REPLACED TO AT LEAST THEIR ORIGINAL CONDITION.
8. ALL UNDERGROUND UTILITIES OR STRUCTURES IN PROPOSED PAVEMENT, EMBANKMENT, OR BUILDING AREAS REQUIRING REMOVAL SHALL BE REMOVED AND BACKFILLED COMPLETELY WITH APPROVED ENGINEERED GRANULAR MATERIAL SUITABLE TO THE A/E.
9. CONTRACTOR RESPONSIBLE FOR DEVELOPMENT AND APPROVAL OF MAINTENANCE OF TRAFFIC PLANS PER INDIANA DEPARTMENT OF TRANSPORTATION AND MUTCD STANDARDS.
10. CONTRACTOR TO ABANDON WELLS & SEPTIC SYSTEMS IN ACCORDANCE WITH THE JOHNSON COUNTY HEALTH DEPARTMENT.
11. CONTRACTOR TO REMOVE AND CAP ALL EXISTING SANITARY LATERALS PER DPW STANDARDS.

JONATHAN R. SHEIDLER REGISTERED No. 10707500 STATE OF INDIANA PROFESSIONAL ENGINEER 5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
CONSTRUCTION PLANS

2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

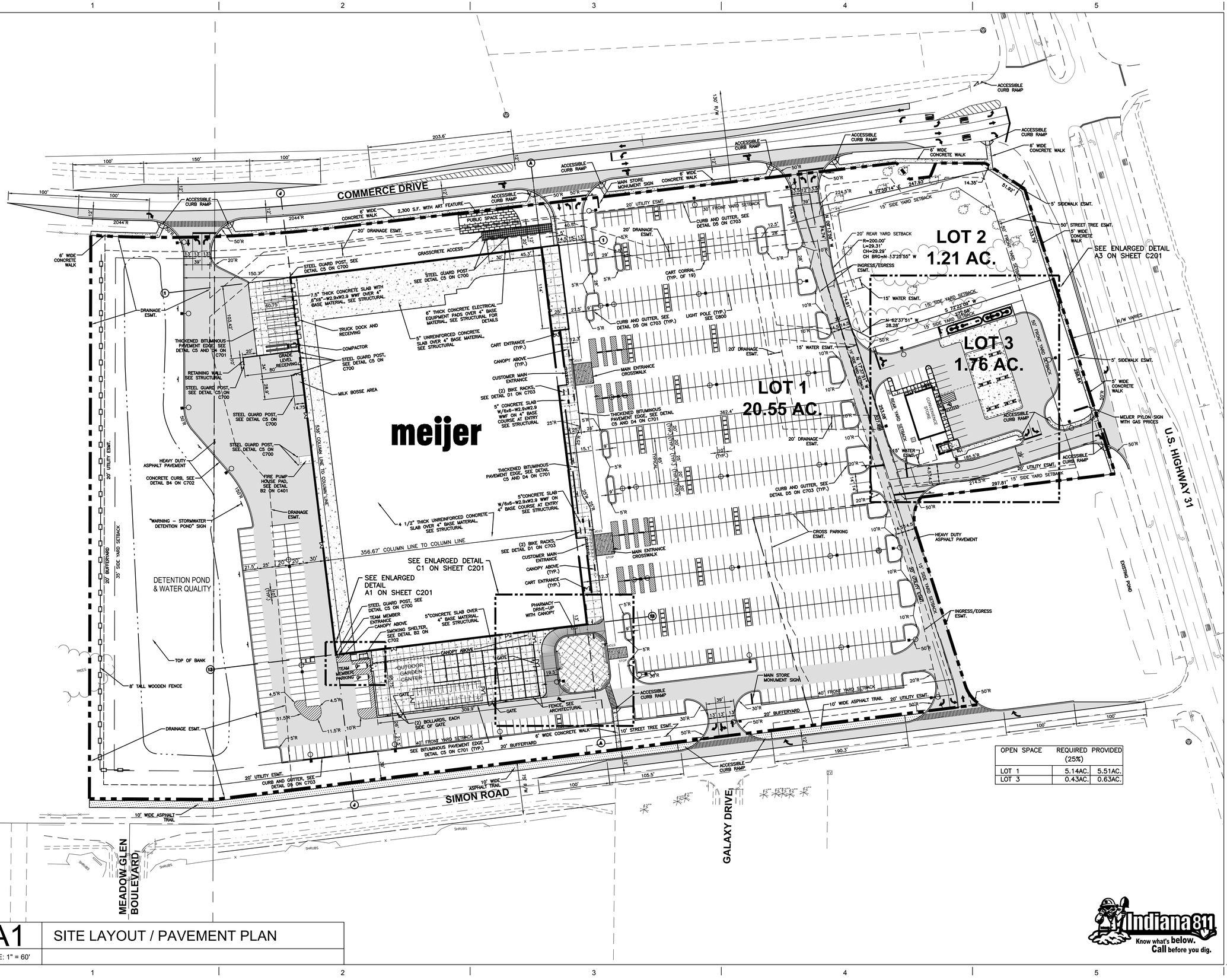
DESIGNED BY:
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

EXISTING CONDITIONS/DEMOLITION PLAN

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C100

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485

A1	EXISTING CONDITION/DEMOLITION PLAN
SCALE: 1" = 60'	



OPEN SPACE	REQUIRED (25%)	PROVIDED
LOT 1	5.14AC.	5.51AC.
LOT 3	0.43AC.	0.63AC.

A1	SITE LAYOUT / PAVEMENT PLAN
SCALE: 1" = 60'	

0 60 120 180
GRAPHIC SCALE IN FEET

GENERAL NOTES

1. NO DIMENSION MAY BE SCALED. REFER UNCLEAR ITEMS TO THE ENGINEER FOR INTERPRETATION.
2. DIMENSIONS AND/OR COORDINATES ARE TO BACK OF CURB, CENTERLINE OF BUILDING COLUMN LINE (INSIDE FACE OF PRECAST), EDGE OF PAVEMENT OR CENTER OF STRUCTURE OR SIGN. VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
3. BUILDING SLABS, UNDERBED THICKNESS AND LOCATIONS ARE SHOWN FOR REFERENCE. VERIFY WITH STRUCTURAL DRAWINGS.
4. REFER TO SHEET C500, C501 FOR STRIPING/SIGNAGE, AND PARKING COUNT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING TO ACCOMPLISH ALL WORK INDICATED ON PLANS AND PERFORM REQUIRED COMPACTION OPERATIONS.
6. PROVIDE ADEQUATE BARRICADES AT DRIVES, ENTRANCES, EXCAVATIONS AND OTHER OPENINGS TO KEEP OUT UNAUTHORIZED PERSONS AND FOR PUBLIC SAFETY AND TRAFFIC CONTROL. SAFETY PROVISIONS OF APPLICABLE LAWS SHALL BE OBSERVED AT ALL TIMES. BARRICADES LEFT IN PLACE AT NIGHT SHALL BE LIGHTED.
7. NO EQUIPMENT OR MATERIAL STORAGE IS PERMITTED IN THE RIGHT-OF-WAY.
8. WORK SHALL CONFORM TO THE REQUIREMENTS OF GOVERNING AGENCIES HAVING JURISDICTION. GRADING, PAVING AND MATERIALS SHALL COMPLY WITH THE STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AS WELL AS PROJECT SPECIFICATIONS AND DRAWINGS. IN CASE OF DISCREPANCIES BETWEEN REQUIREMENTS, THE MORE STRINGENT SHALL APPLY.
9. EXTERIOR CONCRETE SLABS ADJACENT TO BUILDING SHALL BE PLACED ON 6" STRUCTURAL CUSHION, UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.
10. AGGREGATE TO EXTEND 12" BEYOND BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED. SEE DETAIL D1 AND D3 ON SHEET C701.
11. ALL RADII SHALL BE 3' UNLESS OTHERWISE NOTED.
12. CONTRACTOR RESPONSIBLE FOR DEVELOPMENT AND APPROVAL OF MAINTENANCE OF TRAFFIC PLANS FOR INDIANA DEPARTMENT OF TRANSPORTATION AND MUTCD STANDARDS.

PAVEMENT LEGEND

- CONCRETE
- HEAVY DUTY ASPHALT SEE D1 ON C701
- LIGHT DUTY ASPHALT SEE D1 ON C701
- RIGHT-OF-WAY ASPHALT PER INDOT STANDARDS

JONATHAN R. SHEIDLER REGISTERED No. 10707500 STATE OF INDIANA PROFESSIONAL ENGINEER 5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
CONSTRUCTION PLANS

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(616) 453-6711

REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

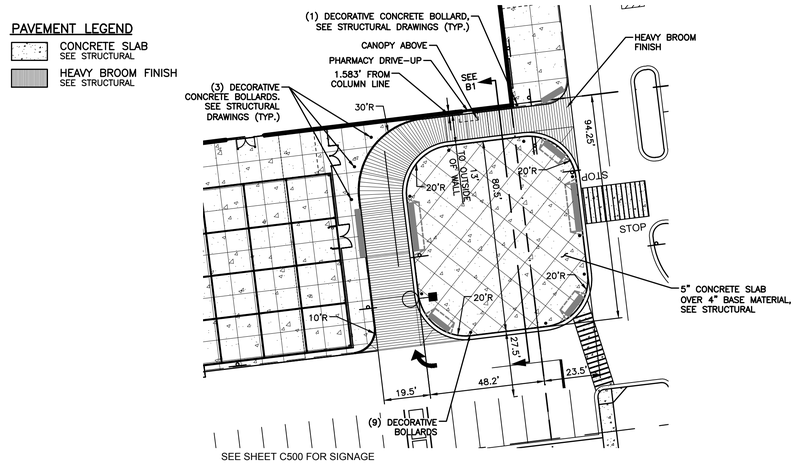
DESIGNED BY:
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

SITE LAYOUT / PAVEMENT PLAN

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C200

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485

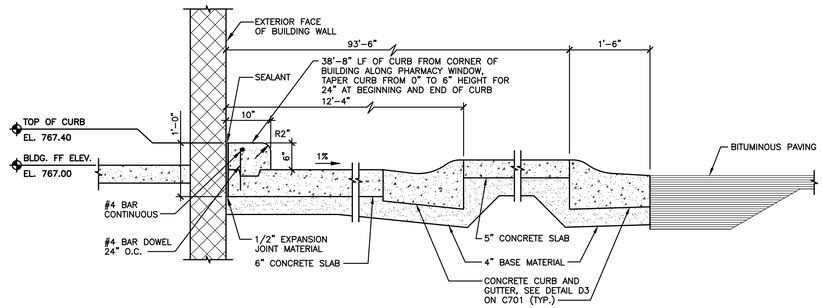
Indiana 811 Know what's below. Call before you dig.



SEE SHEET C500 FOR SIGNAGE

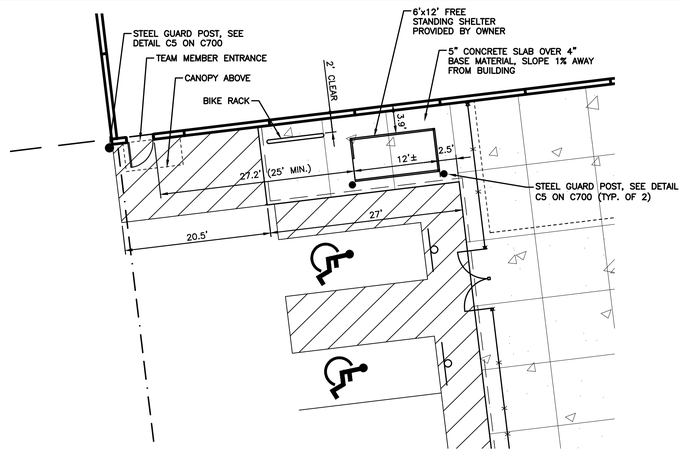
C1 PHARMACY DRIVE UP SECTION

SCALE: 1" = 30' | A1/C200



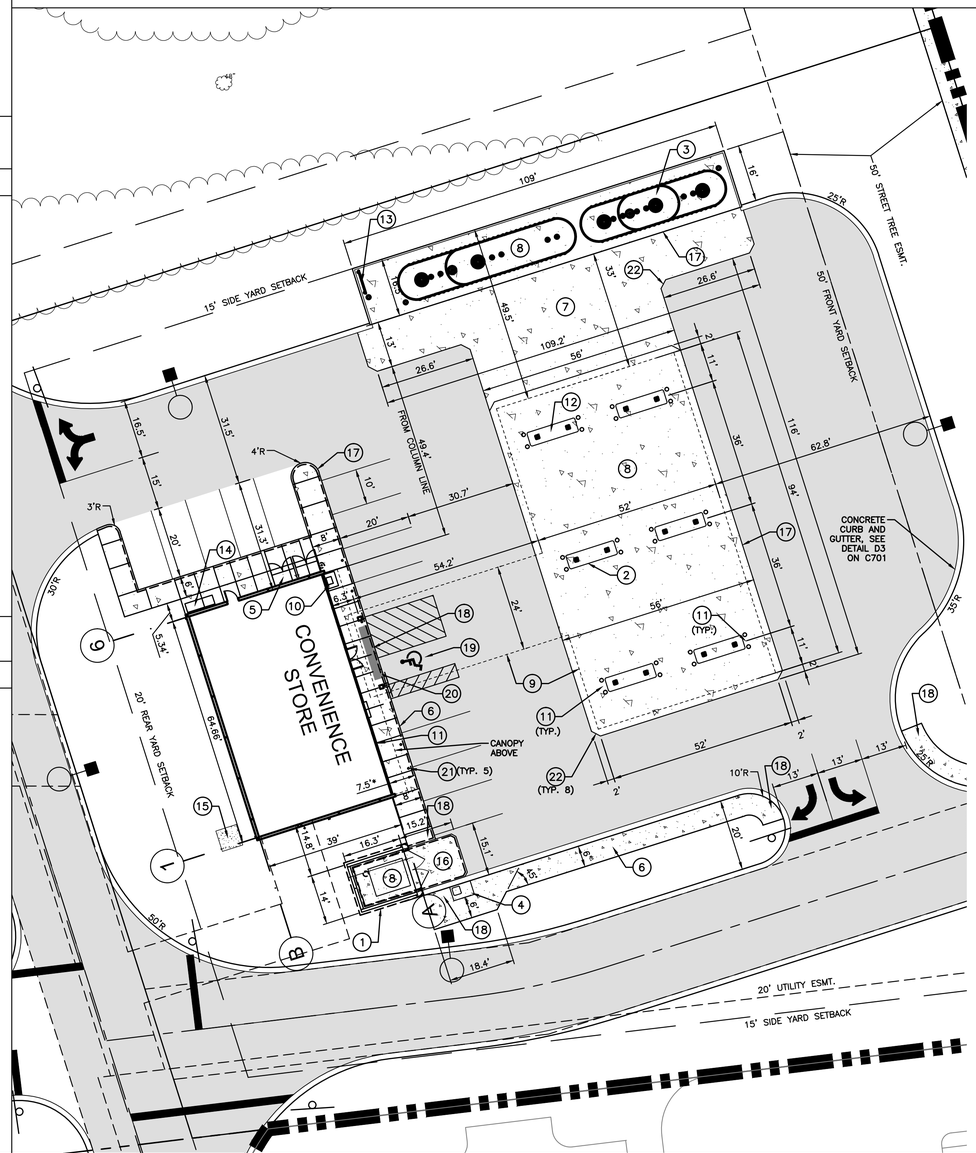
B1 PHARMACY DRIVE-UP SECTION

SCALE: 3/4" = 1'-0" | C1/C200



A1 SMOKING SHELTER

SCALE: 1" = 10' | A1/C200



A3 ENLARGED CONVENIENCE STORE AND ENTRANCE

SCALE: 1" = 20' | A1/C200

CONVENIENCE STORE KEY NOTES

1. TRASH DUMPSTER ENCLOSURE AND PAD (REFER TO ARCH GAS STATION DRAWING FOR DETAILS).
2. PUMP DISPENSER. CONSTRUCTION TO BE PERFORMED BY FUEL SYSTEM CONTRACTOR. LOCATION ON C200 FOR REFERENCE ONLY.
3. FUEL TANKS AND CONCRETE PADS SHOWN AS REFERENCE INFORMATION ONLY. TANKS AND FUELING SYSTEM PROVIDED BY FUEL SYSTEM CONTRACTOR.
4. CONCRETE PAD FOR AIR COMPRESSOR/VACUUM AND TRASH RECEPTACLE. SEE ARCHITECTURAL GAS STATION DRAWINGS FOR DETAILS.
5. PROPANE EXCHANGE BIN AND BOLLARDS REFER TO GAS STATION ARCHITECTURAL DRAWINGS.
6. 4" CONCRETE SIDEWALK ON 4" BASE MATERIAL REFER TO GAS STATION STRUCTURAL DRAWINGS FOR SIDEWALK DETAILS.
7. 8" CONCRETE ON 4" AGGREGATE OR PEA STONE BASE.
8. 6" CONCRETE ON 4" AGGREGATE OR PEA STONE BASE.
9. CANOPY INSTALLED BY FUEL SYSTEM CONTRACTOR. (REFER TO FUEL ISLAND CANOPY DRAWINGS).
10. ICE STORAGE CHEST.
11. SEASONAL OUTDOOR SALES AREA.
12. DIESEL/GASOLINE DISPENSER CLOSEST TO STORAGE TANKS.
13. UST VENT RISER, BY FUEL SYSTEM CONTRACTOR.
14. DELIVERY RAMP STORAGE.
15. TRANSFORMER PAD.
16. 7" CONCRETE ON 4" AGGREGATE OR PEA STONE BASE.
17. THICKENED BITUMINOUS PAVEMENT EDGE. SEE DETAIL C5 ON C701 (TYP. ALONG ALL CONCRETE).
18. ACCESSIBLE CURB RAMP. SEE DETAIL A2 ON C702.
19. ACCESSIBLE STANDARD PARKING SPACES. SEE DETAILS ON C701.
20. 15 LF OF DETECTABLE WARNING SURFACE.
21. (5) BOLLARDS ALONG FRONT OF BUILDING. SEE ARCHITECTURAL.
22. 2' CHAMFER

*SIDEWALK DIMENSIONS TO OUTSIDE OF WALL

Indiana 811 Know what's below. Call before you dig.

0 60 120 180

GRAPHIC SCALE IN FEET

GENERAL NOTES

1. NO DIMENSION MAY BE SCALED. REFER UNCLEAR ITEMS TO THE ENGINEER FOR INTERPRETATION.
2. DIMENSIONS AND/OR COORDINATES ARE TO BACK OF CURB, CENTERLINE OF BUILDING COLUMN LINE (INSIDE FACE OF PRECAST), EDGE OF PAVEMENT OR CENTER OF STRUCTURE OR SIGN. VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
3. BUILDING SLABS, UNDERBED THICKNESS AND LOCATIONS ARE SHOWN FOR REFERENCE. VERIFY WITH STRUCTURAL DRAWINGS.
4. REFER TO SHEET C500, C501 FOR STRIPING/SIGNAGE, AND PARKING COUNT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING TO ACCOMPLISH ALL WORK INDICATED ON PLANS AND PERFORM REQUIRED COMPACTION OPERATIONS.
6. PROVIDE ADEQUATE BARRICADES AT DRIVES, ENTRANCES, EXCAVATIONS AND OTHER OPENINGS TO KEEP OUT UNAUTHORIZED PERSONS AND FOR PUBLIC SAFETY AND TRAFFIC CONTROL. SAFETY PROVISIONS OF APPLICABLE LAWS SHALL BE OBSERVED AT ALL TIMES. BARRICADES LEFT IN PLACE AT NIGHT SHALL BE LIGHTED.
7. NO EQUIPMENT OR MATERIAL STORAGE IS PERMITTED IN THE RIGHT-OF-WAY.
8. WORK SHALL CONFORM TO THE REQUIREMENTS OF GOVERNING AGENCIES HAVING JURISDICTION. GRADING, PAVING AND MATERIALS SHALL COMPLY WITH THE STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AS WELL AS PROJECT SPECIFICATIONS AND DRAWINGS. IN CASE OF DISCREPANCIES BETWEEN REQUIREMENTS, THE MORE STRINGENT SHALL APPLY.
9. EXTERIOR CONCRETE SLABS ADJACENT TO BUILDING SHALL BE PLACED ON 6" STRUCTURAL CUSHION, UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.
10. AGGREGATE TO EXTEND 12" BEYOND BACK OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED. SEE DETAIL D1 AND D3 ON SHEET C701.
11. ALL RADII SHALL BE 3' UNLESS OTHERWISE NOTED.
12. CONTRACTOR RESPONSIBLE FOR DEVELOPMENT AND APPROVAL OF MAINTENANCE OF TRAFFIC PLANS FOR INDIANA DEPARTMENT OF TRANSPORTATION AND MUTCD STANDARDS.

PAVEMENT LEGEND

- CONCRETE
- HEAVY DUTY ASPHALT SEE D1 ON C701
- LIGHT DUTY ASPHALT SEE D1 ON C701
- RIGHT-OF-WAY ASPHALT PER INDOT STANDARDS

JONATHAN R. SHEIDLER REGISTERED No. 10707500 STATE OF INDIANA PROFESSIONAL ENGINEER 5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK CONSTRUCTION PLANS

2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

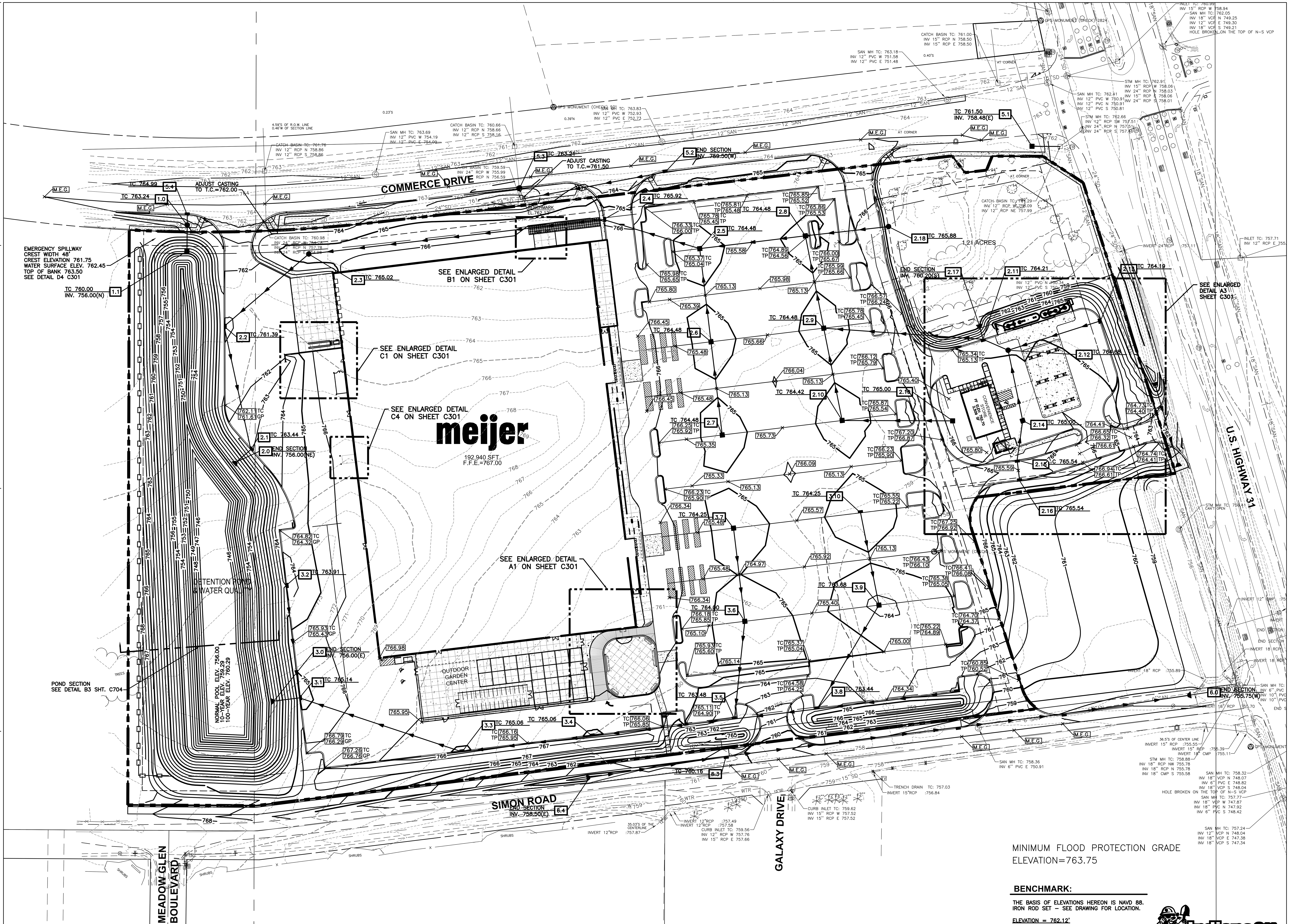
CONSTRUCTION MANAGED BY:

DESIGNED BY: WOOLPERT DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

SITE LAYOUT / PAVEMENT PLAN

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C201

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



MINIMUM FLOOD PROTECTION GRADE
ELEVATION=763.75

BENCHMARK:

THE BASIS OF ELEVATIONS HEREON IS NAVD 88. IRON ROD SET – SEE DRAWING FOR LOCATION.

ELEVATION = 762.12'

Indiana 811 Know what's below. Call before you dig.

A1 SITE GRADING/DRAINAGE PLAN

SCALE: 1" = 60'

NORTH

0 60 120 180
GRAPHIC SCALE IN FEET

GRADING LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- 796 EXISTING 1' CONTOUR
- 795 EXISTING 5' CONTOUR
- 796 PROPOSED 1' CONTOUR
- 795 PROPOSED 5' CONTOUR
- x PROPOSED FENCE LINE
- 5.9 PROPOSED STORM ID
- PROPOSED CATCH BASIN
- PROPOSED CURB INLET
- PROPOSED STORM MANHOLE
- PROPOSED FLARED END SECTION

GRADING NOTES

1. ALL SPOT ELEVATIONS ARE TO:
   TOP OF PAVEMENT – (TP)
   TOP OF SLAB – (TS)
   TOP OF CURB – (TC)
   TOP OF WALL – (TW)
   GUTTER PAN – (GP)

   UNLESS NOTED OTHERWISE.
2. CONTOURS SHOWN ARE FOR REFERENCE ONLY.
3. PROVIDE POSITIVE DRAINAGE AT ALL TIMES TO ENSURE NO STANDING WATER WITHIN PAVEMENT OR GREEN AREAS.
4. FOR ALL CURB ISLANDS, CENTER OF ISLANDS TO BE A MINIMUM OF 6" HIGHER THAN TOP OF CURB.
5. SEE "TYPICAL PAVEMENT AT MH AND CB" DETAIL C4 ON C701 FOR SPECIAL GRADING REQUIREMENTS AROUND STRUCTURES.
6. RESTORE ALL STREET SURFACES, DRIVEWAYS, CULVERTS, ROADSIDE DRAINAGE DITCHES, AND OTHER PUBLIC OR PRIVATE STRUCTURES THAT ARE DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES TO MATCH AT A MINIMUM EXISTING CONDITIONS.
7. CONTRACTOR'S MANNER AND METHOD OF INGRESS AND EGRESS WITH RESPECT TO THE PROJECT AREAS SHALL IN NO WAY PROHIBIT OR DISTURB NORMAL PEDESTRIAN OR VEHICULAR TRAFFIC IN THE VICINITY AND IS SUBJECT TO REGULATION AND WRITTEN APPROVAL OF APPROPRIATE GOVERNING AGENCIES.
8. FINISHED SUBGRADE SURFACE SHALL NOT BE MORE THAN 0.1 FEET ABOVE OR BELOW ESTABLISHED FINISHED SUBGRADE ELEVATIONS AND ALL GROUND SURFACES SHALL VARY UNIFORMLY BETWEEN INDICATED ELEVATIONS. FINISHED DITCHES SHALL BE GRADED TO ALLOW FOR PROPER DRAINAGE WITHOUT PONDING AND IN A MANNER THAT WILL MINIMIZE EROSION.
9. TO THE BEST KNOWLEDGE OF THE ENGINEER, NO ABANDONED WELLS OR SINKHOLES EXIST ONSITE.

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WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

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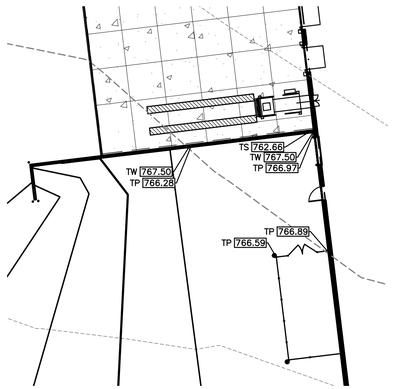
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

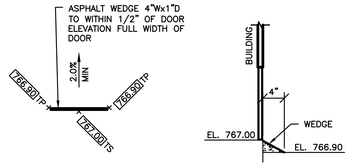
SITE GRADING/DRAINAGE PLAN

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C300
CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.	
BJH		74485	



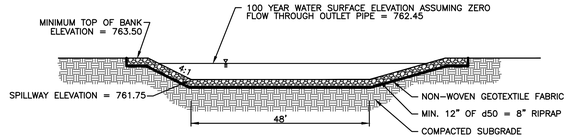
C1 GRADES AT GRADE LEVEL RECEIVING

SCALE: 1" = 20' | A1/C300



C3 TYPICAL GRADES AT DOOR

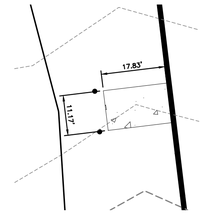
SCALE: 1" = 10' | A1/C300



–WOOLPERT DETAIL–

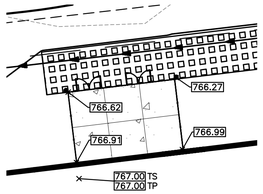
D4 EMERGENCY SPILLWAY SECTION - NORTH POND

NTS | C1/C300



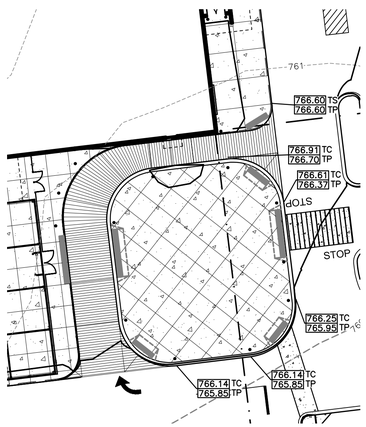
C4 GRADES AT FIRE PUMP HOUSE

SCALE: 1" = 20' | A1/C300



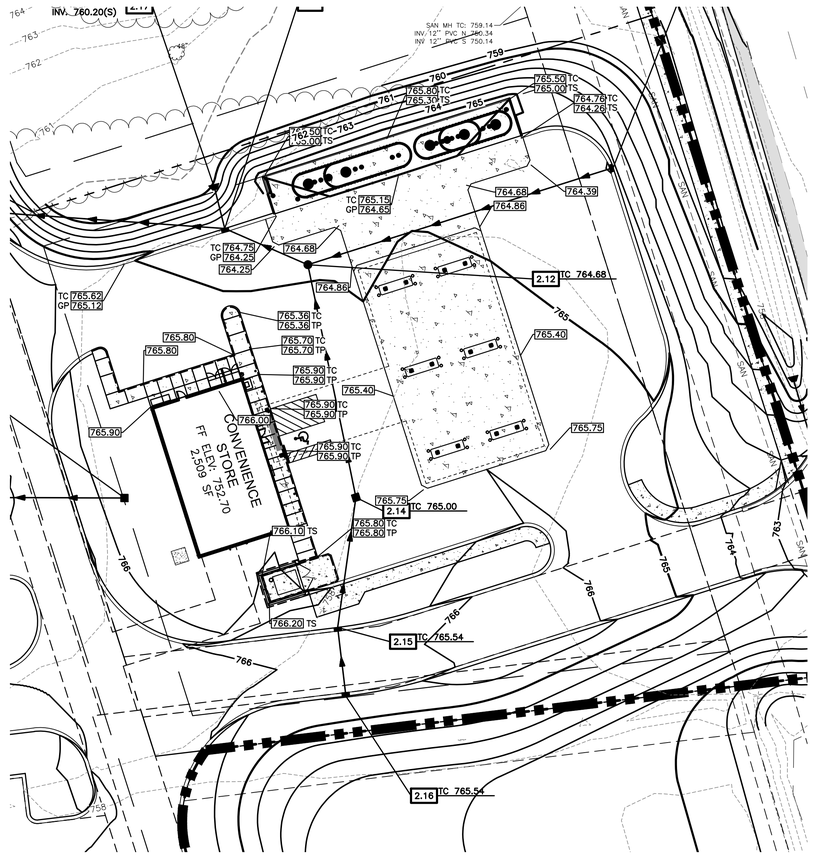
B1 GRADES AT ELECTRIC ENCLOSURE

SCALE: 1" = 20' | A1/C300



A1 PHARMACY DRIVE-UP GRADING PLAN

SCALE: 1" = 30' | A1/C300



A3 ENLARGED CONVENIENCE STORE AND ENTRANCE

SCALE: 1" = 30' | A1/C200

NORTH

0 60 120 180

GRAPHIC SCALE IN FEET

GRADING LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- 796 EXISTING 1' CONTOUR
- 795 EXISTING 5' CONTOUR
- 795 PROPOSED 1' CONTOUR
- 795 PROPOSED 5' CONTOUR
- x PROPOSED FENCE LINE
- 5.9 PROPOSED STORM ID
- PROPOSED CATCH BASIN
- PROPOSED CURB INLET
- PROPOSED STORM MANHOLE
- PROPOSED FLARED END SECTION

GRADING NOTES

1. ALL SPOT ELEVATIONS ARE TO:
   TOP OF PAVEMENT – (TP)
   TOP OF SLAB – (TS)
   TOP OF CURB – (TC)
   TOP OF WALL – (TW)
   GUTTER PAN – (GP)

   UNLESS NOTED OTHERWISE.
2. CONTOURS SHOWN ARE FOR REFERENCE ONLY.
3. PROVIDE POSITIVE DRAINAGE AT ALL TIMES TO ENSURE NO STANDING WATER WITHIN PAVEMENT OR GREEN AREAS.
4. FOR ALL CURB ISLANDS, CENTER OF ISLANDS TO BE A MINIMUM OF 6" HIGHER THAN TOP OF CURB.
5. SEE "TYPICAL PAVEMENT AT MH AND CB" DETAIL C4 ON C701 FOR SPECIAL GRADING REQUIREMENTS AROUND STRUCTURES.
6. RESTORE ALL STREET SURFACES, DRIVEWAYS, CULVERTS, ROADSIDE DRAINAGE DITCHES, AND OTHER PUBLIC OR PRIVATE STRUCTURES THAT ARE DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES TO MATCH AT A MINIMUM EXISTING CONDITIONS.
7. CONTRACTOR'S MANNER AND METHOD OF INGRESS AND EGRESS WITH RESPECT TO THE PROJECT AREAS SHALL IN NO WAY PROHIBIT OR DISTURB NORMAL PEDESTRIAN OR VEHICULAR TRAFFIC IN THE VICINITY AND IS SUBJECT TO REGULATION AND WRITTEN APPROVAL OF APPROPRIATE GOVERNING AGENCIES.
8. FINISHED SUBGRADE SURFACE SHALL NOT BE MORE THAN 0.1 FEET ABOVE OR BELOW ESTABLISHED FINISHED SUBGRADE ELEVATIONS AND ALL GROUND SURFACES SHALL VARY UNIFORMLY BETWEEN INDICATED ELEVATIONS. FINISHED DITCHES SHALL BE GRADED TO ALLOW FOR PROPER DRAINAGE WITHOUT PONDING AND IN A MANNER THAT WILL MINIMIZE EROSION.
9. TO THE BEST KNOWLEDGE OF THE ENGINEER, NO ABANDONED WELLS OR SINKHOLES EXIST ONSITE.

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REGISTERED
No. 10707500
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PROFESSIONAL ENGINEER
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STORE FRK
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WOOLPERT
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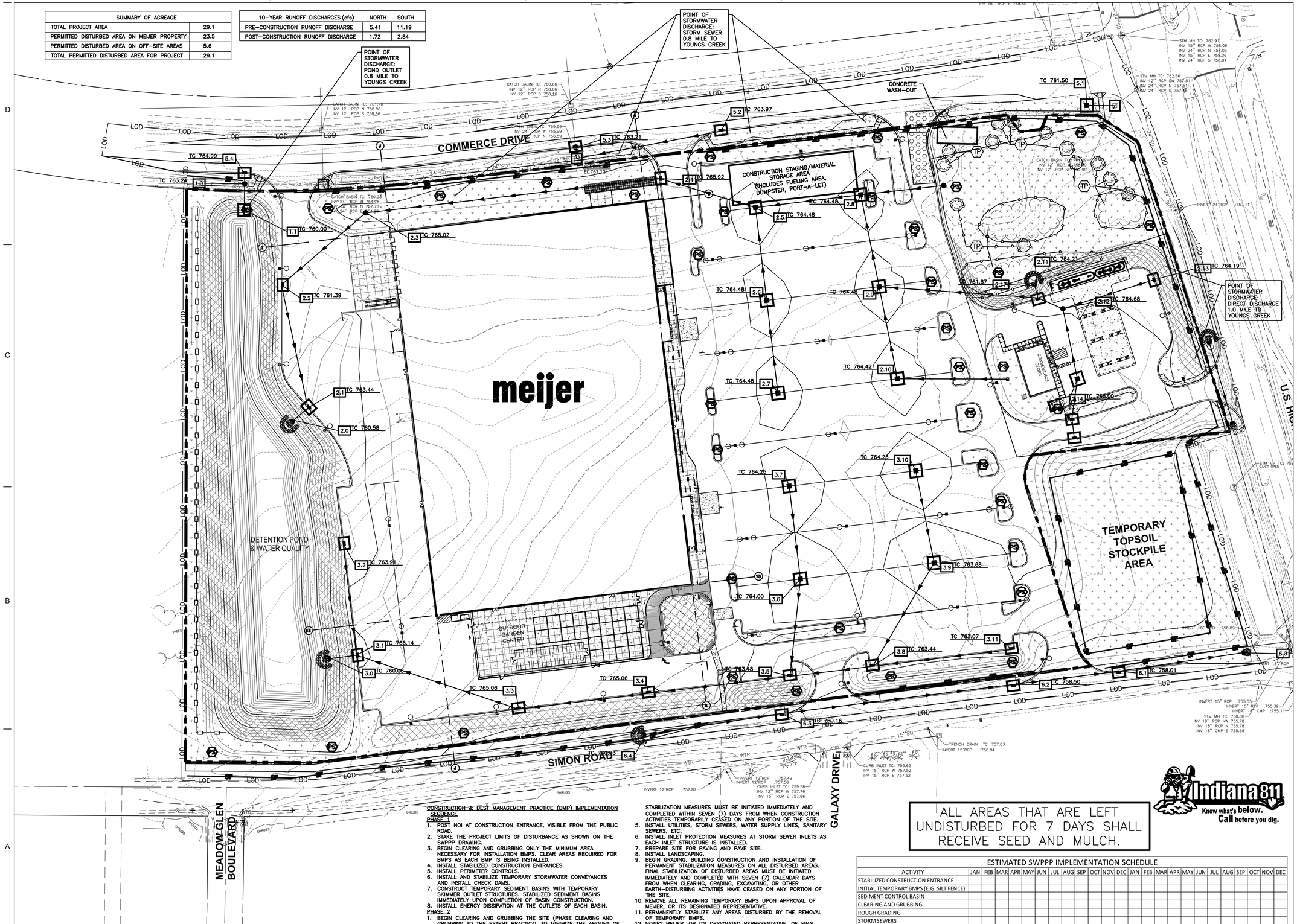
317.299.7500
FAX: 317.291.5805

SITE GRADING/DRAINAGE PLAN

DRAWN BY:	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C301
CHECKED BY:	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.	
BJH		74485	

SUMMARY OF ACREAGE	
TOTAL PROJECT AREA	29.1
PERMITTED DISTURBED AREA ON MEIJER PROPERTY	23.5
PERMITTED DISTURBED AREA ON OFF-SITE AREAS	5.6
TOTAL PERMITTED DISTURBED AREA FOR PROJECT	29.1

10-YEAR RUNOFF DISCHARGES (cfs)	NORTH	SOUTH
PRE-CONSTRUCTION RUNOFF DISCHARGE	5.41	11.19
POST-CONSTRUCTION RUNOFF DISCHARGE	1.72	2.84



A1	EROSION CONTROL PLAN
SCALE: 1" = 60'	

CONSTRUCTION & BEST MANAGEMENT PRACTICE (BMP) IMPLEMENTATION SEQUENCE

PHASE 1
1. POST NOI AT CONSTRUCTION ENTRANCE, VISIBLE FROM THE PUBLIC ROAD.
2. STAKE THE PROJECT LIMITS OF DISTURBANCE AS SHOWN ON THE SWPPP DRAWING.
3. BEGIN CLEARING AND GRUBBING ONLY THE MINIMUM AREA NECESSARY FOR INSTALLATION BMPS. CLEAR AREAS REQUIRED FOR BMPS AS EACH BMP IS BEING INSTALLED.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES.
5. INSTALL PERIMETER CONTROLS.
6. INSTALL AND STABILIZE TEMPORARY STORMWATER CONVEYANCES AND INSTALL CHECK DAMS.
7. CONSTRUCT TEMPORARY SEDIMENT BASINS WITH TEMPORARY SKIMMER OUTLET STRUCTURES. STABILIZED SEDIMENT BASINS IMMEDIATELY UPON COMPLETION OF BASIN CONSTRUCTION.
8. INSTALL ENERGY DISSIPATION AT THE OUTLETS OF EACH BASIN.

PHASE 2
1. BEGIN CLEARING AND GRUBBING THE SITE (PHASE CLEARING AND GRUBBING TO THE EXTENT PRACTICAL TO MINIMIZE THE AMOUNT OF AREA DISTURBED AT ANY GIVEN TIME).
2. BEGIN GRADING THE SITE.
3. START CONSTRUCTION OF BUILDING PADS, FOUNDATIONS, AND BUILDINGS.
4. IMPLEMENT TEMPORARY STABILIZATION MEASURES ON ANY DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES WILL NOT RESUME FOR 15 DAYS OR MORE. IMPLEMENTATION OF TEMPORARY STABILIZATION MEASURES MUST BE INITIATED IMMEDIATELY AND COMPLETED WITHIN SEVEN (7) DAYS FROM WHEN CONSTRUCTION ACTIVITIES TEMPORARILY CEASED ON ANY PORTION OF THE SITE.
5. INSTALL UTILITIES, STORM SEWERS, WATER SUPPLY LINES, SANITARY SEWERS, ETC.
6. INSTALL INLET PROTECTION MEASURES AT STORM SEWER INLETS AS EACH INLET STRUCTURE IS INSTALLED.
7. PREPARE SITE FOR PAVING AND PAVE SITE.
8. INSTALL LANDSCAPING.
9. BEGIN GRADING, BUILDING CONSTRUCTION AND INSTALLATION OF PERMANENT STABILIZATION MEASURES ON ALL DISTURBED AREAS. FINAL STABILIZATION OF DISTURBED AREAS MUST BE INITIATED IMMEDIATELY AND COMPLETED WITH SEVEN (7) CALENDAR DAYS FROM WHEN CLEARING, GRADING, EXCAVATING, OR OTHER EARTH-DISTURBING ACTIVITIES HAVE CEASED ON ANY PORTION OF THE SITE.
10. REMOVE ALL REMAINING TEMPORARY BMPS UPON APPROVAL OF MEIJER, OR ITS DESIGNATED REPRESENTATIVE.
11. PERMANENTLY STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF TEMPORARY BMPS.
12. NOTIFY MEIJER, OR ITS DESIGNATED REPRESENTATIVE, OF FINAL SITE STABILIZATION.
13. MEIJER, OR ITS DESIGNATED REPRESENTATIVE, TO SUBMIT NOTICE OF TERMINATION TO THE PERMITTING AGENCY.

NOTE: THE CONTRACTOR MAY COMPLETE CONSTRUCTION ACTIVITIES CONCURRENTLY PROVIDED ALL PRECEDING BMPS AND STABILIZATION ACTIVITIES HAVE BEEN COMPLETELY INSTALLED.

ALL AREAS THAT ARE LEFT UNDISTURBED FOR 7 DAYS SHALL RECEIVE SEED AND MULCH.

ESTIMATED SWPPP IMPLEMENTATION SCHEDULE

ACTIVITY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
STABILIZED CONSTRUCTION ENTRANCE																								
INITIAL TEMPORARY BMPS (E.G. SILT FENCE)																								
SEDIMENT CONTROL BASIN																								
CLEARING AND GRUBBING																								
ROUGH GRADING																								
STORM SEWERS																								
FOUNDATION/BUILDING CONSTRUCTION																								
FINAL GRADING																								
PERMANENT STORMWATER CONTROLS																								
FINAL STABILIZATION																								

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR ESTIMATED PROJECT SCHEDULE AT ONSET OF CONSTRUCTION

NORTH

0 60 120 180

GRAPHIC SCALE IN FEET

LEGEND

- LIMITS OF DISTURBANCE — LOD
- SILT FENCE
- INLET PROTECTION
- TREE PROTECTION — TP
- PROPOSED STORM STRUCTURE
- EROSION CONTROL BLANKET
- TEMPORARY CONSTRUCTION ENTRANCE
- PERMANENT SEEDING — PS
- TEMPORARY ROCK DONUT
- ROCK CHUTE
- PARCEL BOUNDARY
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING STORM SEWER
- PROPOSED STORM SEWER

GENERAL EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL CONTROL WASTE, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES ON THE SITE IN SUCH A WAY THAT THEY SHALL NOT BE TRANSPORTED FROM THE SITE BY THE ACTION OF WINDS, STORMWATER RUNOFF, OR OTHER FORCES. PROPER DISPOSAL OR MANAGEMENT OF ALL WASTES AND UNUSED BUILDING MATERIALS, APPROPRIATE TO THE NATURE OF THE WASTE OR MATERIAL, IS REQUIRED.
2. PUBLIC OR PRIVATE ROADWAYS SHALL BE KEPT CLEARED OF ACCUMULATED SEDIMENT. BULK CLEARING OF ACCUMULATED SEDIMENT SHALL NOT INCLUDE FLUSHING THE AREA WITH WATER. CLEARED SEDIMENT SHALL BE RETURNED TO THE POINT OF LIKELY ORIGIN OR OTHER SUITABLE LOCATION.
3. THIS EROSION CONTROL PLAN SHALL BE IMPLEMENTED ON ALL DISTURBED AREAS WITHIN THE CONSTRUCTION SITE. ALL MEASURES INVOLVING EROSION CONTROL PRACTICES SHALL BE INSTALLED UNDER THE GUIDANCE OF QUALIFIED PERSONNEL EXPERIENCED IN EROSION CONTROL, AND FOLLOWING THE PLANS AND SPECIFICATIONS INCLUDED HEREIN.
4. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE INDIANA STORM WATER QUALITY MANUAL FROM THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM).
5. T.C. SHALL INDICATE THE ELEVATION THAT WATER WOULD ENTER A STRUCTURE WHEN STRUCTURE IS NOT A CURB INLET. T.C. SHALL INDICATE TOP OF CURB WHEN STRUCTURE IS A CURB INLET.
6. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE "INDIANA STORM WATER QUALITY MANUAL." AND THE SCS "FIELD OFFICE TECHNICAL GUIDE".
7. JOHNSON COUNTY HAS THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES IN THE FILED AS CONDITIONS WARRANT.
8. SEE SHEET C306 & C307 FOR EROSION CONTROL DETAILS.
9. EROSION CONTROL BLANKET TO BE PLACED ON ALL SLOPES STEEPER THAN 4H : 1V.
10. OWNER CONTACT:
    JEFF CALIGIURI
    MEIJER STORES, LIMITED PARTNERSHIP
    2929 WALKER AVENUE
    GRAND RAPIDS, MICHIGAN 49544
    PHONE: (616) 453-6711

JONATHAN R. SHEDLER REGISTERED No. 10707500 STATE OF INDIANA PROFESSIONAL ENGINEER
5/14/15

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meijer

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REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

Indiana 811 Know what's below. Call before you dig.

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7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

STORMWATER POLLUTION PREVENTION PLAN PHASE 2

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C303

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
JRN		74485

EROSION CONTROL NOTES

A1 PLAN INDEX ITEMS RELATED TO THE SWPPP ARE SHOWN AS NOTES ON THIS SHEET.

A2 NO PLAT IS INCLUDED WITH THIS SUBMITTAL.

A3 THIS PROJECT INVOLVES THE CONSTRUCTION OF AN APPROXIMATELY 192,940 SF MEIJER STORE AND A 2,509 SF CONVENIENCE STORE WITH ASSOCIATED ACCESS DRIVES AND PARKING.

A4 THE VICINITY MAP IS LOCATED ON THE COVER SHEET.

A5 LEGAL DESCRIPTION IS INCLUDED ON THE COVER SHEET.

LATITUDE 39°30'21" N, LONGITUDE 86°04'22" W.

A6 ALL IMPROVEMENTS AND BOUNDARY IS SHOWN ON THE SITE PLAN.

A7 HYDROLOGIC UNIT CODE: 05120204090030.

A8 THERE ARE NO STATE OR FEDERAL WATER QUALITY PERMITS REQUIRED FOR THIS SITE.

A9 PROPOSED DETENTION POND OUTFLOWS TO COMMERCE DRIVE STORM SEWER SYSTEM.

A10 PER THE NATIONAL WETLAND INVENTORY, THERE ARE NO POTENTIAL WETLANDS.

A11 THE ULTIMATE RECEIVING WATER IS THE YOUNGS CREEK – BREWERS/CANARY DITCHES.

A12 THERE ARE NO DISCHARGES TO GROUNDWATER KNOWN ON THIS PROPERTY OR DIRECTLY DOWNSTREAM.

A13 NO FLOODPLAIN, FLOODWAYS, OR FLOODWAY FRINGES ARE ON THE PROPERTY.

A14

		NORTH	EAST	SOUTH	SOUTHWEST	NORTHEAST
PRE-CONSTRUCTION PEAK DISCHARGE:	(10-YR)	5.41 CFS	4.36 CFS	11.19 CFS	0.23 CFS	0.19 CFS
	(100-YR)	13.82 CFS	10.68 CFS	27.88 CFS	0.61 CFS	0.47 CFS
POST-CONSTRUCTION PEAK DISCHARGE:	(10-YR)	1.72 CFS	0.00 CFS	2.84 CFS	0.00 CFS	0.00 CFS
	(100-YR)	5.02 CFS	0.00 CFS	5.68 CFS	0.00 CFS	0.00 CFS

A15 ADJACENT LAND USES:

NORTH: COMMERCIAL
SOUTH: RESIDENTIAL
EAST: COMMERCIAL
WEST: AGRICULTURAL

A16 CONSTRUCTION LIMITS ARE SHOWN IN EROSION CONTROL PLAN SHEETS C302 & C303.

A17 THE EXISTING VEGETATION IS GRASSED AREAS AND AGRICULTURE FIELDS.

A18 SOILS INFORMATION: PLEASE SEE SOILS MAP LOCATED ON THIS SHEET.

A19 ALL PROPOSED STORMWATER SYSTEMS ARE SHOWN ON THE GRADING AND UTILITY PLANS, C300 AND C301; C400 AND C401, RESPECTIVELY. SEE DETAILS ON DETAIL SHEETS C700-C704.

A20 THE PLANNED OFF-SITE CONSTRUCTION ACTIVITIES INCLUDE ROAD IMPROVEMENTS, AND ADDITIONAL STORM SEWER.

A21 THE PROPOSED STOCKPILE LOCATION FOR THIS PROJECT IS SHOWN ON SHEETS C302 & C303.

A22 EXISTING TOPOGRAPHY IS SHOWN IN THE EXISTING CONDITIONS/DEMOLITION PLAN, C100.

A23 PROPOSED CONTOURS AND SPOT SHOTS ARE PROVIDED ON THE GRADING PLAN, C300 AND C301.

CONSTRUCTION COMPONENT

B1 POTENTIAL POLLUTANT SOURCES DURING CONSTRUCTION ACTIVITIES INCLUDE SEDIMENT, CONCRETE WASTE WATER, TRASH, FOSSIL FUELS, OIL, GREASE, PAINT. EXPOSURE OF THESE POLLUTANTS TO STORMWATER RUNOFF SHOULD BE MINIMIZED BY PERFORMING ACTIVITIES SUCH AS EROSION CONTROL, EQUIPMENT STORAGE, REFUELING, MAINTENANCE AND PORT-A-LET PLACEMENT IN DESIGNED AREAS AS SHOWN ON THE EROSION CONTROL PLAN.

B2 A CONSTRUCTION SEQUENCE CAN BE FOUND ON THIS PLAN SHEET.

B3 PLEASE REFER TO EROSION CONTROL PLAN, SHEETS C302 & C303, FOR THE LOCATION OF THE CONSTRUCTION ENTRANCE.

B4 SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS ARE TEMPORARY/PERMANENT SEEDING, SILT FENCE AND/OR COCONUT LOGS. SEE SEEDING SCHEDULE ON SHEET C305.

B5 SEDIMENT CONTROL FOR CONCENTRATED FLOW AREAS INCLUDE EROSION CONTROL BLANKET AND PERMANENT SEEDING. DETAILS CAN BE FOUND ON SHEET C305. THE DETENTION POND MAY BE USED AS TEMPORARY SEDIMENT TRAPS DURING CONSTRUCTION.

B6 INLET PROTECTION IS PROPOSED FOR ALL EXISTING AND PROPOSED INLETS IN AFFECTED AREA.

B7 RUNOFF CONTROL MEASURES FOR SWALES INCLUDE PERMANENT SEEDING WITH EROSION CONTROL BLANKET, FOR END SECTIONS, TEMPORARY ROCK DONUTS HAVE BEEN SPECIFIED. FOR MORE PERMANENT EROSION CONTROL ON END SECTIONS, ROCK CHUTES (RIPRAP) ARE PROPOSED. DETAILS CAN BE FOUND ON SHEETS C305 & C306.

B8 TEMPORARY ROCK DONUTS HAVE BEEN SPECIFIED AT OUTLET POINTS IN ORDER TO CONTROL SEDIMENT. ROCK CHUTES ARE PROPOSED FOR MORE PERMANENT SEDIMENT CONTROL. DETAILS CAN BE FOUND ON SHEET C306.

B9 ROCK CHUTES ARE SPECIFIED FOR END SECTIONS, DETAIL CAN BE FOUND N SHEET C306.

B10 SEE THE DETAIL SHEETS FOR THE CONSTRUCTION SPECIFICATIONS OF EACH MEASURE. SEE THE EROSION CONTROL PLAN FOR THE LOCATION OF ALL PROPOSED EROSION CONTROL MEASURES.

B11 SEE SEEDING SCHEDULE DETAIL, EROSION CONTROL BLANKET STAPLE PATTERN ON SHEETS C305 AND C306.

B12 SEE EROSION CONTROL INSTALLATION AND SEEDING SCHEDULE DETAILS ON SHEETS C305 AND C306.

B13 **MATERIAL HANDLING AND SPILL PREVENTION PLAN:**
IN ORDER TO MINIMIZE THE RELEASE OF POTENTIAL POLLUTANTS DURING CONSTRUCTION THE CONTRACTOR SHALL IMPLEMENT THIS MATERIAL HANDLING AND SPILL PREVENTION PLAN. THE CONTRACTOR SHALL REVIEW THIS PLAN WITH ALL SUBCONTRACTORS AND REQUIRE THAT THEY IMPLEMENT THE PLAN AS WELL. IF A SPILL SHOULD OCCUR PLEASE CONTACT THE APPROPRIATE AUTHORITIES BELOW:

EMERGENCY RESPONSE	911
FRANKLIN FIRE DEPARTMENT	(317) 736-3651
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT	(888) 233-7745
JOHNSON COUNTY SURVEYOR'S OFFICE	(317) 346-4341

1. CONSTRUCTION EQUIPMENT

A. FUELING, LUBRICATION, AND FLUIDS: ALL OPERATIONS INVOLVING THE ADDITION OF FLUIDS TO EQUIPMENT SHOULD BE DONE IN ONE LOCATION, SO THAT SPILLS ARE LIMITED TO THAT SPECIFIC LOCATION WHICH WILL FACILITATE THE CLEANUP OF SPILLS. IF AN OUTSIDE FUELING TANK IS PLANNED TO BE ON SITE, IT SHALL BE DOUBLE WALLED AND STORED IN THIS DESIGNATED AREA. THIS LOCATION IS AN AREA THAT WILL NOT ALLOW SPILLED FLUIDS TO MIGRATE INTO SUBSURFACE SOILS. IN THE EVENT OF A SPILL, THE FLUID SHALL IMMEDIATELY BE CLEANED UP BY REMOVING THE CONTAMINATED SOIL OR STONE WHICH SHALL BE DISPOSED OF IN AN ACCEPTABLE MANNER. SPILLS ON HARD SURFACES SHALL BE SOAKED UP BY AN ACCEPTABLE MATERIAL SUCH AS OIL DRY AND THE ABSORBENT MATERIAL DISPOSED OF IN A PROPER MANNER. THE SPILL SHALL ALSO BE REPORTED IMMEDIATELY TO THE CONTRACTOR'S SUPERINTENDENT.

B. EQUIPMENT REPAIR, ESPECIALLY WHEN FLUIDS MUST BE REMOVED FROM THE EQUIPMENT OR THE POSSIBILITY OF FLUID SPILLS IS HIGH, SHOULD ALWAYS BE DONE OFFSITE AT A FACILITY THAT IS MORE SUITABLE THAN A CONSTRUCTION SITE TO HANDLE SPILLS. WHEN EQUIPMENT MUST BE REPAIRED ONSITE, IT SHOULD BE MOVED TO THE MAINTENANCE AND FUELING AREA IF POSSIBLE. OTHERWISE, SUITABLE ON SITE CONTAINERS SHOULD BE PLACED UNDER THE EQUIPMENT DURING REPAIR TO CATCH ANY SPILLED FLUIDS AND THESE FLUIDS SHOULD BE DISPOSED OF IN A PROPER MANNER.

C. ALL REUSABLE FLUID CONTAINERS, SUCH AS GASOLINE CANS, SHALL BE INSPECTED FOR LEAKS EACH TIME THEY ARE USED. IF LEAKS ARE FOUND, THE FLUID SHALL BE REMOVED FROM THE CONTAINER IN A PROPER MANNER AND THE CONTAINER DISPOSED OF IN AN ACCEPTABLE MANNER. EMPTY DISPOSABLE CONTAINERS, SUCH AS GREASE TUBES AND LUBRICATING OIL AND BRAKE FLUID CONTAINERS, AND THEIR PACKAGING, SHALL BE DISPOSED OF IN A PROPER MANNER AND SHALL NOT BE LEFT ON THE GROUND OR IN THE OPEN ON THE CONSTRUCTION SITE.

2. CONSTRUCTION MATERIALS AND THEIR PACKAGING

A. EROSION CONTROL MEASURES SHOWN ON THESE PLANS SHALL BE IMPLEMENTED PRIOR TO AND DURING CONSTRUCTION IN THE PROPER SEQUENCING TO MINIMIZE SOIL EROSION. EROSION CONTROLS SHALL BE INSPECTED AND MAINTAINED AS DESCRIBED ELSEWHERE IN THESE PLANS. EXCESSIVE DUSTING OF SOIL ON THE SITE SHALL BE MINIMIZED BY REDUCING CONSTRUCTION TRAFFIC ACROSS BARE SOIL DURING DRY AND/OR WINDY WEATHER, AND BY APPLYING WATER OR OTHER ACCEPTABLE DUST CONTROL MEASURES TO THE SOIL. UPON COMPLETION OF CONSTRUCTION AND SUITABLE ESTABLISHMENT OF PERMANENT VEGETATION, TEMPORARY EROSION CONTROL MEASURES SUCH AS SILT FENCE AND INLET PROTECTION DEVICES SHALL BE REMOVED IN A MANNER TO MINIMIZE ADDITIONAL LAND DISTURBANCE. ANY AREAS DISTURBED BY THESE OPERATIONS SHALL BE PROPERLY REVEGETATED.

B. LARGE WASTE MATERIALS CREATED BY CUTTING, SAWING, DRILLING, OR OTHER OPERATIONS SHALL BE PROPERLY DISPOSED OF IN SUITABLE ONSITE WASTE CONTAINERS. THE SITE SHALL BE CHECKED AT THE END OF THE DAY, AT A MINIMUM, AND ALL WASTE MATERIALS, INCLUDING THOSE BLOWN ACROSS OR OFF THE SITE BY WIND, SHALL BE PICKED UP AND DISPOSED OF IN SUITABLE CONTAINERS. WHERE POSSIBLE, OPERATIONS SUCH AS SAWING THAT CREATE SMALL PARTICLES SHOULD BE PERFORMED IN ONE SPOT IN AN AREA PROTECTED FROM WIND, AND WASTE PARTICLES COLLECTED AND DISPOSED OF FREQUENTLY TO MINIMIZE WIND DISPERSAL. PACKAGING USED TO TRANSPORT MATERIALS TO THE SITE FOR CONSTRUCTION OF THE FACILITY SHALL BE DISPOSED OF PROPERLY, WHETHER THE MATERIAL IS TAKEN OUT OF ITS PACKAGE AND INCORPORATED INTO THE PROJECT IMMEDIATELY OR STORED ONSITE FOR FUTURE USE. PACKAGED MATERIALS STORED ONSITE SHALL BE INSPECTED REGULARLY AND ANY LOOSE PACKAGING SHALL BE REPAIRED OR DISPOSED OF PROPERLY.

C. ALL DEWATERING ACTIVITIES SHALL BE DONE IN ACCORDANCE TO GOOD EROSION CONTROL PRACTICES. THESE PRACTICES SHOULD INCLUDE THE USE OF DIRT BAGS SUCH AS DANDY DIRT BAGS. THE USE OF THESE TYPES OF DEWATERING DEVICES WILL REMOVE LARGE QUANTITIES OF SILT, SEDIMENT, AND DIRT AND PREVENT THESE MATERIALS FROM ENTERING THE STORM SEWER SYSTEM.

D. IF THE USE OF LIME IS USED TO STABILIZE THE SOIL OF THE SITE THEN ALL CONSTRUCTION EQUIPMENT USED SHALL BE CLEANED OF ALL EXCESS MATERIAL WITH WATER IN THE CONSTRUCTION STAGING AREA AS SHOWN WITHIN THESE PLANS.

E. NUTRIENTS AND FERTILIZERS SHALL ONLY BE USED TO ESTABLISH RAPID VEGETATION. WHEN THESE PRODUCTS ARE UTILIZED, THE USER SHOULD PAY STRICT ATTENTION TO THE PRODUCTS RECOMMENDED USAGE.

3. CONCRETE WASTE WATER

A. ALL CONCRETE WASTE WATER SHALL BE DISPOSED OF IN THE DESIGNATED CONCRETE WASHOUT AREAS SHOWN ON SHEET C302. CONCRETE WASTE WATER SHALL BE DISCHARGED INTO A 4'-HIGH, 10'-DIAMETER DOUGHNUT-TYPE MULCH BERM CONSTRUCTED OVER A POLYETHYLENE LINER. CONTRACTOR SHALL INSPECT THIS AREA ON A DAILY BASIS AT A MINIMUM. WHEN THIS AREA BECOMES FULL, THE POLLUTANTS SHALL BE EXCAVATED, PLACED IN AN ACCEPTABLE CONTAINER AND DISPOSED OF IN A PROPER MANNER.

4. PAINT PRODUCTS

A. ALL EXCESS PAINT AND THEIR RELATED PRODUCTS SHALL BE DISPOSED OF IN THE MANNER BY WHICH THE MANUFACTURER SUGGESTS. UNDER NO CIRCUMSTANCES SHALL PAINT OR THEIR RELATED PRODUCTS BE CLEANED OR DISPOSED OF IN SOIL, SANITARY SEWERS, STORM SEWERS OR DETENTION BASINS. ANY VIOLATIONS OF THIS SHALL BE REPORTED TO THE JOB SUPERINTENDENT.

IN THE EVENT OF ACCIDENTAL CONTAMINATION, ALL EFFORTS SHOULD BE MADE TO REMOVE CONTAMINANTS IN AN APPROPRIATE MANNER. THE FIRE DEPARTMENT SHOULD BE CONTACTED IMMEDIATELY TO DETERMINE IF FURTHER MEASURES ARE NEEDED.

B14 PROJECT SITE OWNER OR THEIR REPRESENTATIVE, KNOWLEDGEABLE IN EROSION AND SEDIMENT CONTROL, WILL INSPECT THE SITE FOR STORMWATER POLLUTION PREVENTION DEFICIENCIES AT LEAST WEEKLY AND AGAIN WITHIN 24 HOURS OF EVERY ½ INCH RAIN EVENT SEE EROSION CONTROL SCHEDULE ON SHEET C306 FOR MAINTENANCE DETAILS.

B15 NOT APPLICABLE.

POST CONSTRUCTION COMPONENTS

C1 EXPECTED POLLUTANTS IN THE POST-DEVELOPED CONDITION ARE: SEDIMENT, OIL, GREASE, ANTIFREEZE, AND GASOLINE MAY OCCUR IN LIMITED AMOUNTS AS A RESULT OF THIS PROJECT. THE ONLY OTHER REASONABLY FORESEEN POLLUTION FROM THIS SITE WILL BE LITTER AND TRASH DUMPED BY OTHERS.

C2 TO TREAT 80% TSS FROM THE SITE, THE POST CONSTRUCTION BMP IS THE WET DETENTION POND WITH CHANNEL PROTECTION VOLUME. THE POND IS SIZED AND ORIFICES SET PER THE FRANKLIN STORMWATER MANUAL IN ORDER TO ACHIEVE WATER QWUALITY, WITH THE TOTAL WATER QUALITY VOLUME EQUAL TO 0.5 INCHES OF STORAGE PER ACRE. A DRY DETENTION BASIN IS ALSO DESIGNED TO REMOVE 80% TSS GIVEN THE PROPOSED FLOW THROUGH RATE PER THE FRANKLIN STORMWATER MANUAL.

C3 TO TREAT 80% TSS FROM THE SITE, A WET DETENTION POND WITH CHANNEL PROTECTION VOLUME. THE WET POND WILL PROVIDE SEDIMENT REMOVAL AND DILUTION OF POLLUTANTS PRIOR TO DISCHARGING FROM THE PROPERTY.

C4 SEE GRADING, EROSION CONTROL AND UTILITY PLANS FOR LOCATION AND SPECIFICATIONS OF THE WET POND. SEE WET POND TYPICAL SECTION DETAIL ON SHEET C301.

C5 MAINTENANCE OF ALL STORMWATER POLLUTION PREVENTION MEASURES WILL BE THE RESPONSIBILITY OF THE PROJECT OWNER, MEIJER STORES, INC., UTILIZING PROCEDURES OUTLINED ON THESE PLANS. THE MAINTENANCE GUIDELINES CONSIST MOSTLY OF GOOD HOUSEKEEPING MEASURES. ANY GRASSED OR VEGETATED AREAS THAT EXPERIENCE EROSION FROM RAINFALL EVENTS SHOULD BE REPAIRED AND REVEGETATED AS SOON AS POSSIBLE. TRASH OR LITTER SHOULD BE PICKED UP AND PROPERLY DISPOSED TO PREVENT IT FROM GETTING INTO THE STORM DRAINAGE SYSTEM AND DOWNSTREAM WATERWAYS. SEE GRADING AND UTILITY PLAN FOR THE LOCATION OF THE WET POND. REMOVAL OF SEDIMENT ACCUMULATION FROM THE FOREBAY SHOULD OCCUR WHEN 50% OF THE STORAGE VOLUME IS LOST. TO REMOVE SEDIMENT ACCUMULATION, DEWATER THE FOREBAY AND REMOVE OF SEDIMENT WITH A BACKHOE.

EROSION OF THE STEEP BANKS OF ANY BERMS OR SWALES SHOULD BE ADDRESSED AS SOON AS IT BECOMES VISIBLE BY FILLING THE ERODED AREA WITH SUITABLE SOIL AND ESTABLISHING VEGETATION IMMEDIATELY, PREFERABLY BY SODDING.

PAVEMENT AREAS SHOULD BE MONITORED FOR POLLUTANTS. ANY LARGE QUANTITIES OF FLUIDS SUCH AS OIL, ANTIFREEZE, BRAKE FLUID, ETC. FOUND ON THE PAVEMENT SHOULD BE REPORTED TO THE OWNER. THE OWNER SHOULD CLEAN THE POLLUTANTS AND PREVENT THE SOURCE FROM ENTERING THE SITE IN THE FUTURE. FINALLY, PAVEMENTS SHOULD ALSO BE MONITORED FOR SEDIMENT COMING FROM VEGETATIVE AREAS. IF POST-CONSTRUCTION EROSION IS OCCURRING, THE SOURCE SHOULD BE RE-STABILIZED AS SOON AS POSSIBLE BY SEEDING, SODDING OR MULCHING.

OWNER CONTACT:
JEFF CALIGIURI
MEIJER STORES, LIMITED PARTNERSHIP
2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
PHONE: (616) 453-6711

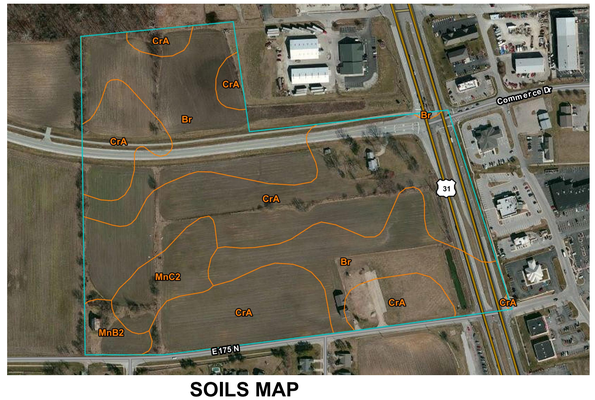
SOILS DATA

CrA – CROSBY SILT LOAM, FINE LOAMY SUBSOIL, 0-2% SLOPES

Br – BROOKSTON SILTY CLAY LOAM

MnC2 – MIAMI SILT LOAM, 6-12% SLOPES, ERODED

MnB2 – MIAMI SILT LOAM, 2-6% SLOPES, ERODED



SOILS MAP
NOT TO SCALE

ALL AREAS THAT ARE LEFT UNDISTURBED FOR 7 DAYS SHALL RECEIVE SEED AND MULCH.

Indiana 811 Know what's below. Call before you dig.

NORTH
0 60 120 180
GRAPHIC SCALE IN FEET

GENERAL EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL CONTROL WASTE, GARBAGE, DEBRIS, WASTEWATER, AND OTHER SUBSTANCES ON THE SITE IN SUCH A WAY THAT THEY SHALL NOT BE TRANSPORTED FROM THE SITE BY THE ACTION OF WINDS, STORMWATER RUNOFF, OR OTHER FORCES. PROPER DISPOSAL OR MANAGEMENT OF ALL WASTES AND UNUSED BUILDING MATERIALS, APPROPRIATE TO THE NATURE OF THE WASTE OR MATERIAL, IS REQUIRED.
2. PUBLIC OR PRIVATE ROADWAYS SHALL BE KEPT CLEARED OF ACCUMULATED SEDIMENT. BULK CLEARING OF ACCUMULATED SEDIMENT SHALL NOT INCLUDE FLUSHING THE AREA WITH WATER. CLEARED SEDIMENT SHALL BE RETURNED TO THE POINT OF LIKELY ORIGIN OR OTHER SUITABLE LOCATION.
3. THIS EROSION CONTROL PLAN SHALL BE IMPLEMENTED ON ALL DISTURBED AREAS WITHIN THE CONSTRUCTION SITE. ALL MEASURES INVOLVING EROSION CONTROL PRACTICES SHALL BE INSTALLED UNDER THE CUIDANCE OF QUALIFIED PERSONNEL EXPERIENCED IN EROSION CONTROL, AND FOLLOWING THE PLANS AND SPECIFICATIONS INCLUDED HEREIN.
4. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE INDIANA STORM WATER QUALITY MANUAL FROM THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM).
5. T.C. SHALL INDICATE THE ELEVATION THAT WATER WOULD ENTER A STRUCTURE WHEN STRUCTURE IS NOT A CURB INLET. T.C. SHALL INDICATE TOP OF CURB WHEN STRUCTURE IS A CURB INLET.
6. ALL EROSION CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE "INDIANA STORM WATER QUALITY MANUAL" AND THE SCS "FIELD OFFICE TECHNICAL GUIDE".
7. JOHNSON COUNTY HAS THE RIGHT TO REQUIRE ADDITIONAL EROSION CONTROL MEASURES IN THE FILED AS CONDITIONS WARRANT.
8. SEE SHEET C306 & C307 FOR EROSION CONTROL DETAILS.
9. EROSION CONTROL BLANKET TO BE PLACED ON ALL SLOPES STEEPER THAN 4H : 1V.
10. OWNER CONTACT:
JEFF CALIGIURI
MEIJER STORES, LIMITED PARTNERSHIP
2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
PHONE: (616) 453-6711

JONATHAN R. SHEDLER REGISTERED No. 10707500 STATE OF INDIANA PROFESSIONAL ENGINEER 5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
CONSTRUCTION PLANS
2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

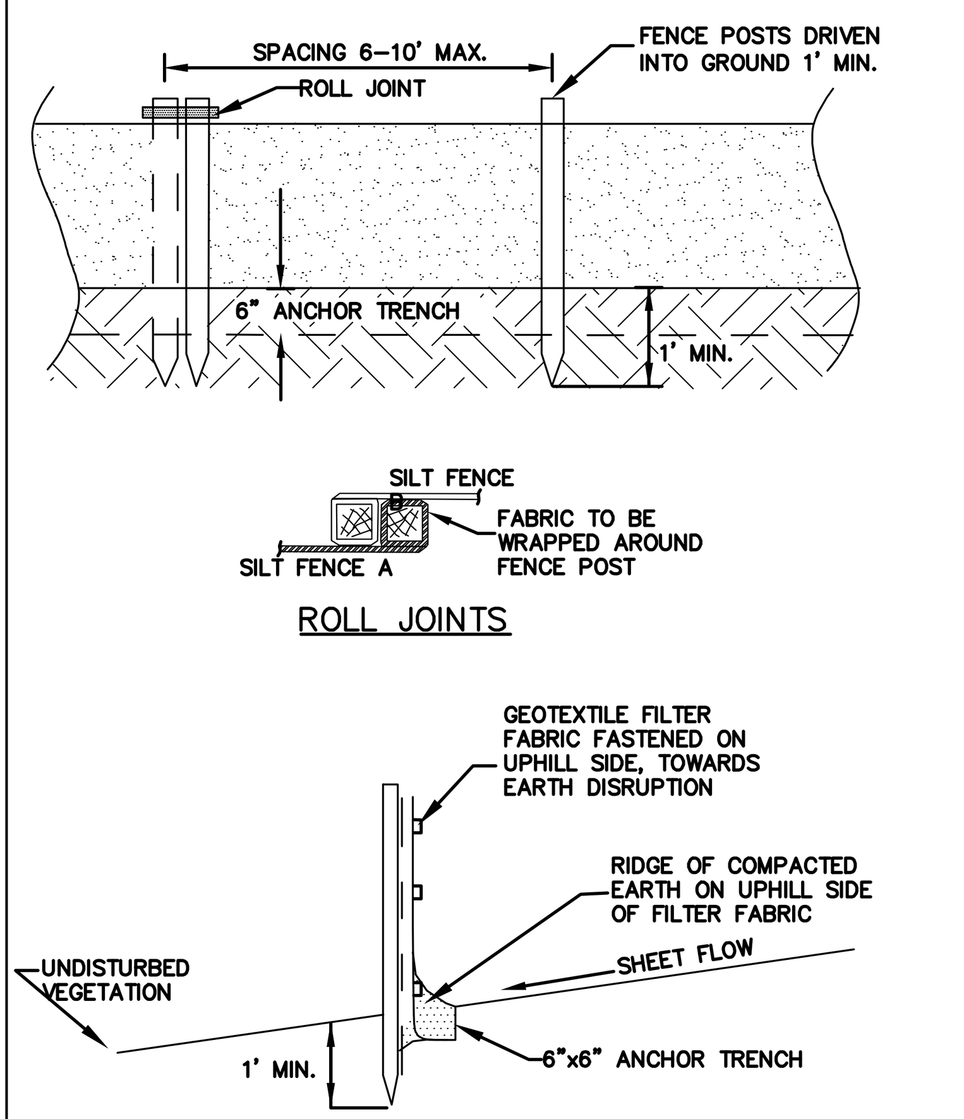
DESIGNED BY:

WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

STORMWATER POLLUTION PREVENTION PLAN

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C304

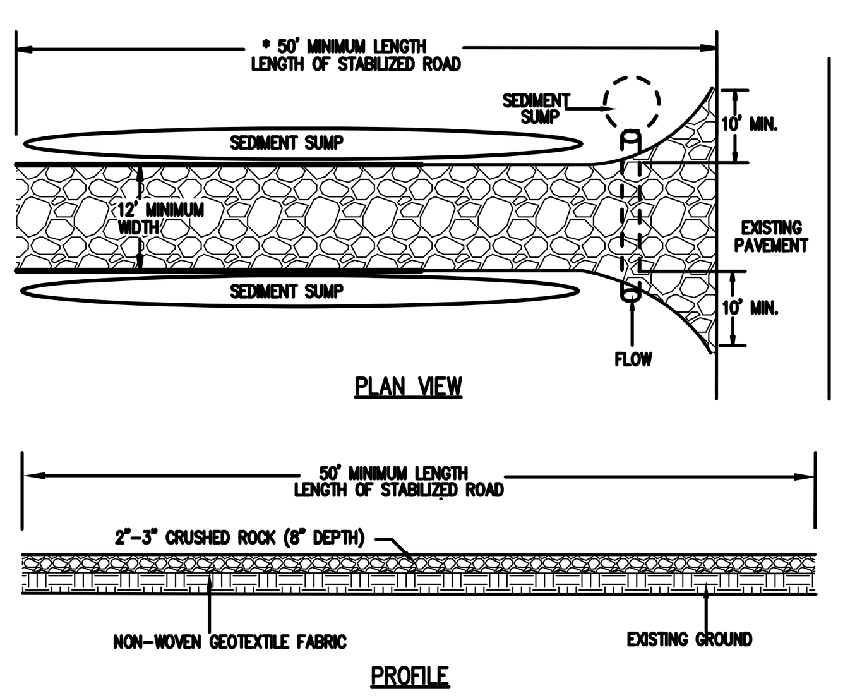
CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
JRN		74485



INSTALLATION
1. INSTALL PARALLEL TO A CONTOUR.
2. THE SILT FENCE SHOULD BE MADE OF WOVEN GEOTEXTILE FABRIC.
3. SILT FENCE SHOULD ACCOMODATE NO MORE THAN 1/2 TO 1 ACRE OF DRAINAGE PER 100' OF FENCE AND ON SLOPES LESS THAN 1:2 (V:H).
4. DIG A 6" TRENCH ALONG THE AREA WHERE THE FENCE IS TO BE INSTALLED.
5. PLACE 6" OF THE SILT FENCE BOTTOM FLAP INTO THE TRENCH.
6. BACKFILL THE TRENCH WITH SOIL AND COMPACT THE SOIL ON BOTH SIDES. CREATE A SMALL RIDGE ON THE UP-SLOPE SIDE OF THE FENCE.
7. INSTALL WOODEN STAKES 6 – 10' APART AND DRIVE INTO THE GROUND A MINIMUM OF 12".
8. STAPLE THE GEOTEXTILE FABRIC TO THE WOODEN STAKES.
9. JOIN SECTIONS OF SILT FENCE BY WRAPPING ENDS TOGETHER (SEE DRAWING).

MAINTENANCE
- INSPECT FREQUENTLY AND IMMEDIATELY AFTER EACH STORM EVENT. CHECK SEVERAL TIMES DURING PROLONGED STORM EVENTS. IF NECESSARY, REPAIR IMMEDIATELY.
- IF THE SEDIMENT HAS REACHED 1/3 THE HEIGHT OF THE FENCE, THE SOIL SHOULD BE REMOVED AND DISPOSED OF IN A STABLE UPLAND SITE.
- THE FENCE SHOULD BE RE-INSTALLED IF WATER IS SEEPING UNDERNEATH IT OR IF THE FENCE HAS BECOME INEFFECTIVE.
- SILT FENCE SHOULD BE REMOVED ONCE VEGETATION IS ESTABLISHED AND UP-SLOPE AREA HAS STABILIZED.
- SILT FENCE MAY CAUSE TEMPORARY PONDING AND COULD FAIL IF TOO MUCH WATER FLOWS THROUGH THE AREA.
- DO NOT USE IN AREAS WITH CONCENTRATED FLOWS.
- CHANCE OF FAILURE INCREASES IF FENCE IS INSTALLED INCORRECTLY OR IF SEDIMENT ACCUMULATION IS NOT REMOVED.

D1 SILT FENCE
NTS

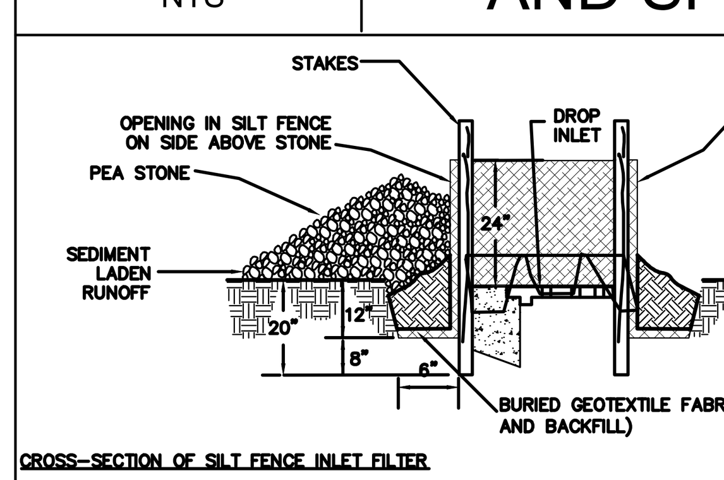


INSTALLATION
1. STABILIZED CONSTRUCTION ACCESS ROAD SHOULD BE ESTABLISHED AT THE ONSET OF THE CONSTRUCTION ACTIVITIES AND MAINTAINED IN PLACE FOR THE DURATION OF THE CONSTRUCTION PROJECT.
2. INSTALLATION OF THIS PRACTICE SHOULD BE THE RESPONSIBILITY OF THE SITE CLEARING OR EXCAVATING CONTRACTOR.
3. ACCESS LOCATION SHOULD BE CLEARED OF WOODY VEGETATION.
4. NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE.
5. ACCESS SIZE SHOULD BE A MINIMUM OF 50'. (30' FOR SINGLE RESIDENCE LOT).
6. ACCESS WIDTH SHOULD BE 12' MINIMUM, FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
7. CRUSHED AGGREGATE (2" TO 3"), OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT, SHALL BE PLACED AT LEAST 8" DEEP OVER THE LENGTH AND WIDTH OF THE INGRESS/EGRESS CORRIDOR.

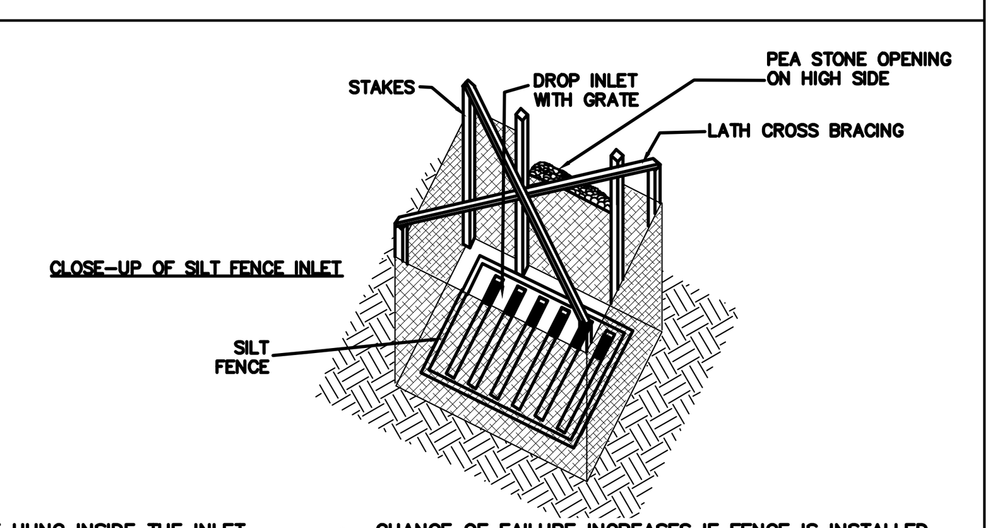
MAINTENANCE
- PERIODIC INSPECTION AND NEEDED MAINTAINENCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.
- STABILIZED ENTRANCES SHALL BE REPAIRED AND ROCK ADDED AS NECESSARY.
- SEDIMENT DEPOSITED ON PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY AND RETURNED TO THE CONSTRUCTION SITE.
- IF SOILS ARE SUCH THAT WASHING OF TIRES IS REQUIRED, IT SHALL BE DONE IN A WASH RACK AREA, STABILIZED WITH STONE, IMMEDIATELY PRIOR TO THE CONSTRUCTION ACCESS STABILIZED CORRIDOR.
- AT THE PROJECT COMPLETION, ROCK ACCESS ROAD SHOULD BE REMOVED AND DISPOSED OF UNLESS UTILIZED AS SUBGRADE FOR FINAL ROAD.
- EFFECTIVENESS LIMITED, SEDIMENT MAY BE TRACKED ONTO ROADS REQUIRING ADDITIONAL ACTION.

NOTES
1. ESTABLISH STABILIZED CONSTRUCTION ENTRANCE PRIOR TO THE INITIATION OF SITE CONSTRUCTION ACTIVITIES.
2. CARE SHOULD BE TAKEN TO PREVENT MATERIAL MOVEMENT INTO ADJACENT WETLANDS/WATERBODIES.
3. CARE SHOULD BE TAKEN TO MAINTAIN EXISTING ROADSIDE DRAINAGE VIA CULVERT INSTALLATION, WITH SEDIMENT SUMP PLACED DOWNFLOW OF CULVERT.

D2 STABILIZED CONSTRUCTION ACCESS AND SPECFICATION
NTS



CROSS-SECTION OF SILT FENCE INLET FILTER

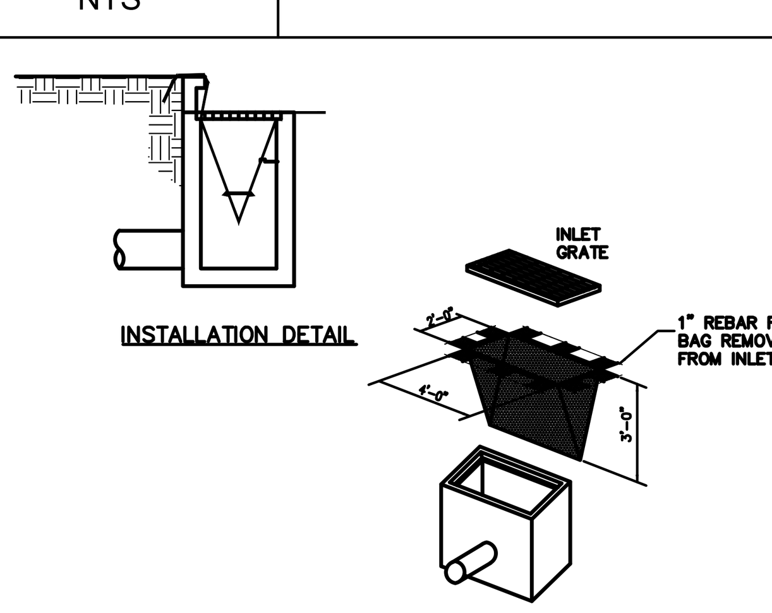


CLOSE-UP OF SILT FENCE INLET

INSTALLATION
1. STAKE FILTER FENCE AROUND INLET, MAKING SURE IT IS TRENCHED IN WELL AROUND PERIMETER OF INLET.
2. BACKFILL TRENCH.
3. ON HIGH SIDE OF INLET, CREATE OPENING IN FENCE BETWEEN 2 STAKES (TYPICALLY AT LEAST 4 TO 6" FROM GROUND TO TOP OF FENCE).
4. PLACE PEA GRAVEL AT EXTERIOR OF SILT FENCE OPENING TO A HEIGHT OF AT LEAST 1" ABOVE OPENING.
5. A FILTER FABRIC BAG MAY BE HUNG INSIDE THE INLET, BENEATH THE GRATE (SEE INLET PROTECTION-FABRIC DROP).

MAINTENACE
- RECONFIGURE PEA STONE AS NEEDED.
- FILTER FENCE MAY CAUSE TEMPORARY PONDING AND COULD FAIL IF TOO MUCH WATER FLOWS THROUGH THE AREA.
- DO NOT USE IN AREAS WITH CONCENTRATED FLOWS.
- CHANCE OF FAILURE INCREASES IF FENCE IS INSTALLED INCORRECTLY OR IF SEDIMENT ACCUMULATION IS NOT REMOVED.
- SIGNIFICANT FLOW QUANTITIES FROM LARGE DRAINAGE AREAS MAY INHIBIT USE.
- MAY IMPEDE FLOWS, PONDING MAY OCCUR IF NOT MAINTAINED.
- REQUIRES FREQUENT MAINTENANCE.

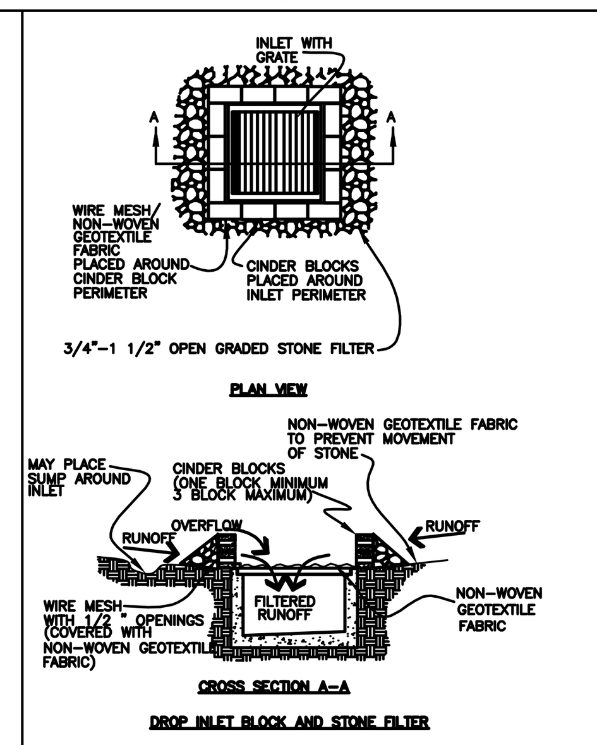
D3 INLET PROTECTION - FABRIC PROTECTION
NTS



INSTALLATION
1. A FILTER FABRIC BAG IS HUNG INSIDE THE INLET, BENEATH THE GRATE.
2. REPLACE GRATE, WHICH WILL HOLD BAG IN PLACE.
3. ANCHOR FILTER BAG WITH 1" REBAR FOR REMOVAL FROM INLET.
4. FLAPS OF BAG THAT EXTEND BEYOND THE BAG CAN BE BURIED IN SOIL IN EARTH AREAS.

MAINTENACE
- DROP INLET FILTERS SHOULD BE INSPECTED ROUTINELY AND AFTER EACH MAJOR RAIN EVENT.
- DAMAGED FILTER BAGS SHOULD BE REPLACED.
- CLEAN AND/OR REPLACE FILTER BAG WHEN 1/2 FULL. REPLACE CLOGGED FABRIC IMMEDIATELY.
- IF NEEDED, INITIATE REPAIRS IMMEDIATELY UPON INSPECTION.
- REMOVE ENTIRE PROTECTIVE MECHANISM WHEN UPGRADIENT AREAS ARE STABILIZED AND STREETS HAVE BEEN SWEPT.
- CAN ONLY ACCOMMODATE SMALL FLOW QUANTITIES.
- REQUIRES FREQUENT MAINTENANCE.
- PONDING MAY OCCUR AROUND STORM DRAINS IF FILTER IS CLOGGED.

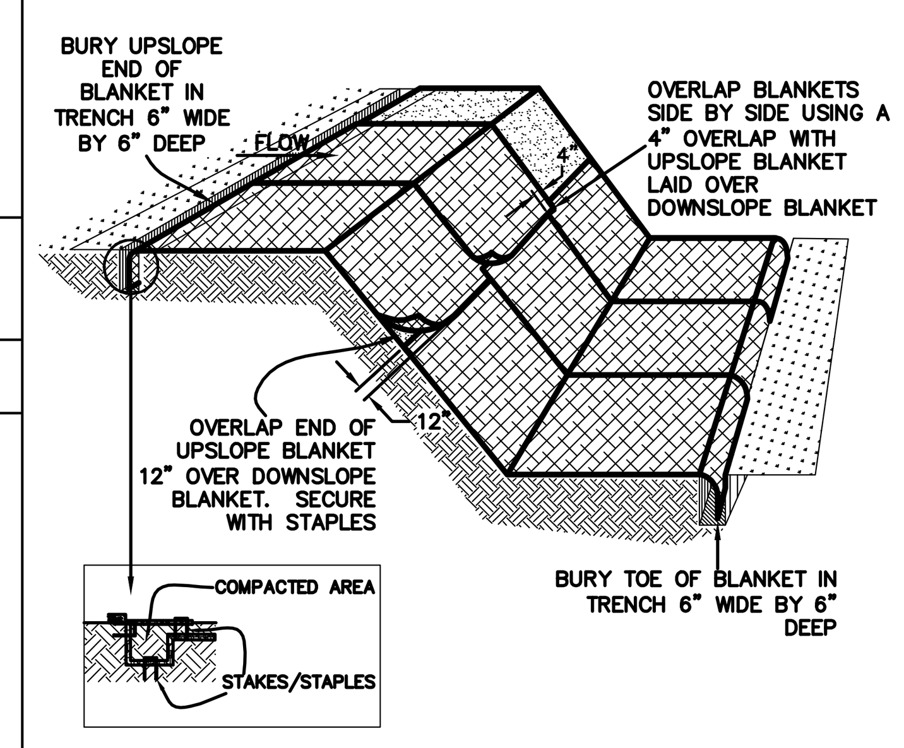
D4 INLET PROTECTION - FABRIC DROP
NTS



INSTALLATION
1. PLACE WIRE MESH WITH 1/2" OPENINGS OVER THE INLET GRATE, EXTENDING A MINIMUM OF 1 FOOT BEYOND EACH SIDE OF INLET STRUCTURE.
2. PLACE NON-WOVEN GEOTEXTILE FABRIC OVER WIRE MESH.
3. PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND PERIMETER OF INLET, SO THAT OPENINGS FACE OUTWARD, NOT UPWARD. THE ENDS OF ADJACENT BLOCKS SHOULD ABUT. HEIGHT OF BLOCKS CAN VARY DEPENDING ON EXPECTED FLOWS, BUT SHOULD BE AT LEAST 8" AND NO GREATER THAN 24" HIGH.
4. PLACE 1/2" WIRE MESH AND NON-WOVEN GEOTEXTILE FABRIC OVER OUTER OPENINGS IN BLOCK TO PREVENT STONE ENTRY.
5. PLACE WASHED 3/4 – 3" GRAVEL AGAINST WIRE MESH TO TOP OF BLOCKS.

MAINTENANCE
- SHOULD BE INSPECTED ROUTINELY AND AFTER LARGE RAIN EVENTS.
- REMOVE SEDIMENT LADEN STONE AND REPLACE WITH NEW STONE.
- NOT APPROPRIATE IN HIGH FLOW AREAS.
- HIGH MAINTENANCE IF LARGE AMOUNTS OF SEDIMENT PRESENT.
- PONDING MAY OCCUR IF DEVICE IS CLOGGED.

D5 INLET PROTECTION - STONE
NTS

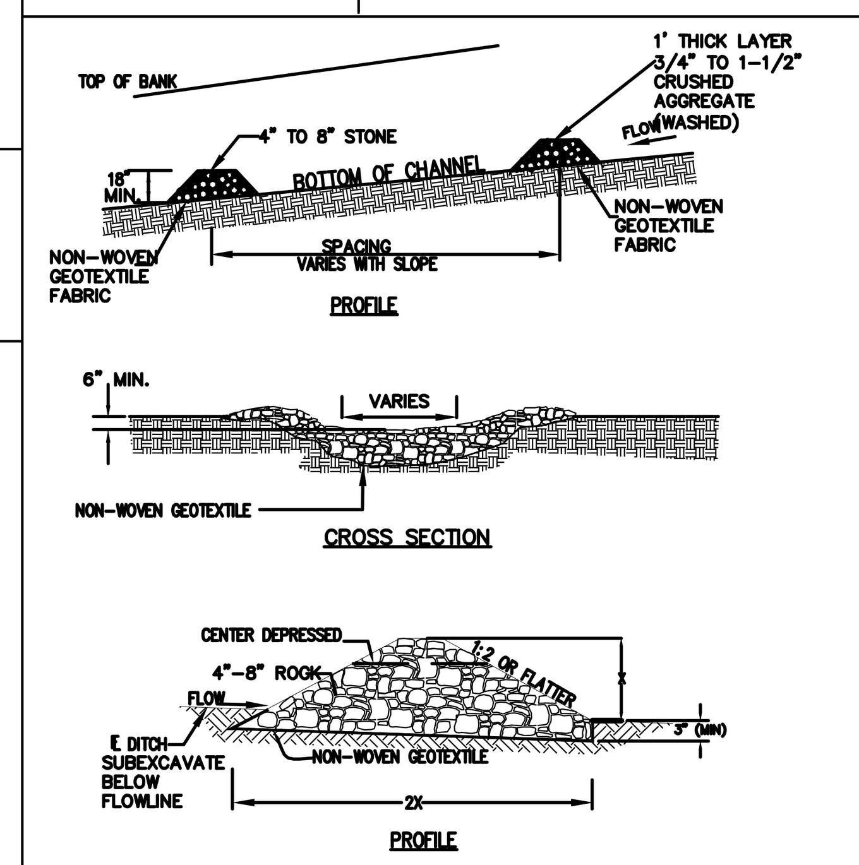


NOTES:
1. PLACE EROSION CONTROL BLANKET PARALLEL TO FLOW AND ANCHOR SECURELY.
2. WHEN BLANKETS ARE USED IN FLOWING DITCH, BLANKETS SHOULD NOT OVERLAP IN DITCH CENTER PARALLEL TO FLOW.
3. STAPLES INSTALLED/SECURED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
4. WHERE POSSIBLE, CONSTRUCT WITH BIODEGRADABLE MATERIAL.

INSTALLATION
1. PREPARE SUBGRADE TO PROPER GRADE AND COMPACTION REQUIREMENTS.
2. REMOVE RUTS, ROOTS, SOIL CLODS, OR OTHER DEBRIS FROM SURFACE SUBJECT TO MULCH BLANKET INSTALLATION.
3. SPREAD OR DRILL SEED.
4. CONSULT WITH EROSION CONTROL MATERIAL SUPPLIER TO SELECT EROSION CONTROL BLANKET BASED ON SLOPE GRADIENT, EXPECTED SURFACE RUN-OFF, AND PROTECTION TERM NECESSARY (LONG OR SHORT TERM).
5. POSITION SELECTED MULCH BLANKET AS CLOSE AS POSSIBLE TO INTENDED USE LOCATION.
6. INSTALL BLANKET AT TOP OF SLOPE, FIRST ANCHORING TOE IN TRENCH 6" WIDE X 6" DEEP, PROGRESSING DOWN-SLOPE OR DOWN-GRADIENT WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH.
7. ANCHOR THE BLANKET WITH STAPLES/STAKES PLACED APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER SECURING.
8. APPLY SEED TO COMPACTED SOIL AND FOLD THE 12" PORTION OF THE BLANKET OVER COMPACTED AREA AND SECURE WITH A ROW OF STAPLES/STAKES PLACED 12" APART ACROSS THE WIDTH OF THE BLANKET.
9. UNROLL THE BLANKETS DOWN OR HORIZONTALLY ACROSS THE SLOPE. OVERLAP BLANKET EDGES BY A MINIMUM OF 4" AND BLANKET ENDS BY A MINIMUM OF 12".
10. OVERLAPS SHOULD BE IN THE DIRECTION OF EXPECTED FLOW WITH THE UP-SLOPE BLANKET PLACED OVER THE DOWN-SLOPE BLANKET EDGE.
11. SECURE DOWN-SLOPE END OF BLANKET WITH STAPLES/STAKES AND TRENCH IN.

MAINTENANCE
- CHECK AFTER A RAIN EVENT TO ENSURE THE BLANKET IS STILL IN PLACE.
- KEEP ERODED SOIL, VEHICULAR AND PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF AWAY FROM THE BLANKETED AREA.
- EROSION CONTROL BLANKETS AND ANCHORS MAY INHIBIT MOWING.

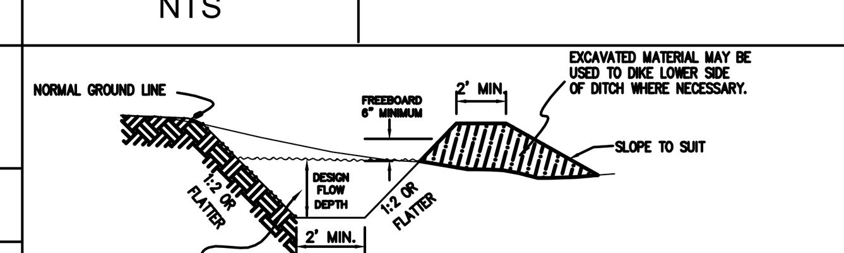
D6 EROSION CONTROL BLANKET
NTS



INSTALLATION
1. THE CHECK DAM SHALL BE CONSTRUCTED OF ROCK ONLY.
2. THE ROCK SHALL BE PLACED ON NON-WOVEN GEOTEXTILE FABRIC.
3. REMOVE WOODY VEGETATION PRIOR TO PLACING NON-WOVEN GEOTEXTILE FABRIC.
4. NON-WOVEN GEOTEXTILE FABRIC SHALL BE INSET A MINIMUM OF 3" BELOW ADJACENT GRADES.
5. THE CHECK DAM SHALL BE CONSTRUCTED OF 4"-8" STONE. THE STONE SHALL BE PLACED TO COMPLETELY COVER THE WIDTH OF THE FLOW CORRIDOR AND SHALL BE KEYED INTO ADJACENT BANKS.
6. THE MIDDLE OF THE CHECK DAM SHALL BE LOWER THAN THE OUTER EDGES, SUCH THAT NO FLOW GOES AROUND THE STRUCTURE.
7. THE UP-STREAM SIDE OF THE CHECK DAM CAN BE LINED WITH SMALLER CRUSHED AGGREGATE TO IMPROVE EFFICIENCY.
8. SLOPES OF CHECK DAM SHOULD BE 1:2 OR FLATTER.

MAINTENANCE
- CHECK DAMS SHOULD BE INSPECTED AFTER EACH RUNOFF EVENT.
- CLOGGED STONE SHOULD BE PERIODICALLY CLEANED.
- NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER INSPECTION.
- ACCUMULATED UPFLOW SEDIMENT SHOULD BE PERIODICALLY REMOVED.
- IF CHECK DAM IS INTENDED AS TEMPORARY STRUCTURE, REMOVE AFTER STABLIZATION IS ACHIEVED.
- USE ONLY IN SMALL OPEN CHANNELS WHICH DRAIN 10 ACRES OR LESS.
- NOT TO BE USED IN LIVE STREAMS.

D7 CHECK DAM
NTS



CUT SECTION FOR DITCHES

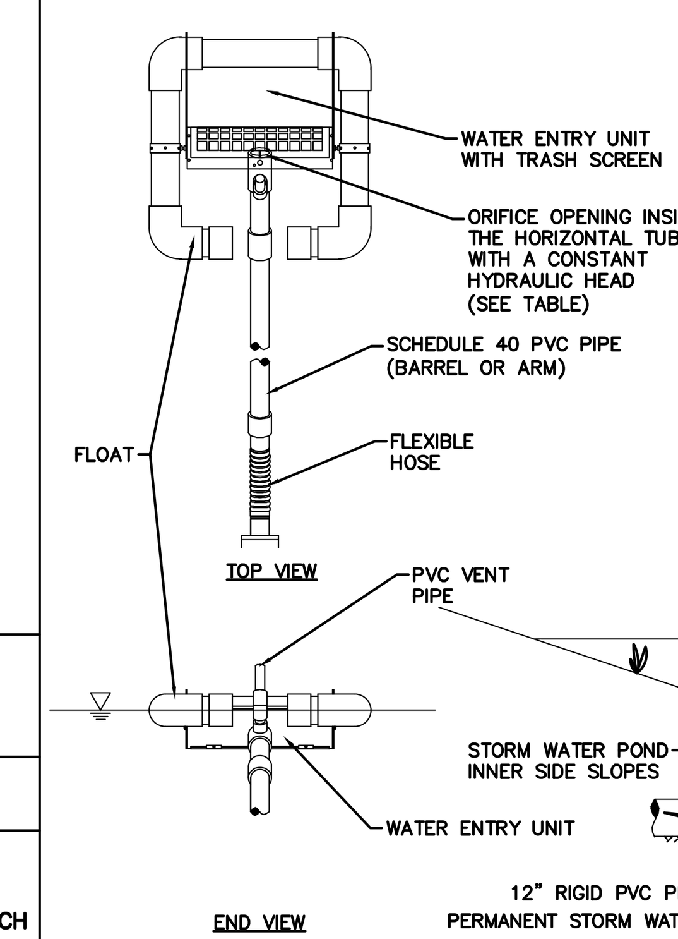
NOTES:
- ALL STRUCTURAL BEST MANAGEMENT PRACTICES TO BE DESIGNED BY A REGISTERED ENGINEER OR LANDSCAPE ARCHITECT.
- ALL DIVERSIONS SHOULD BE FLAT BOTTOM. AVOID "V" PROFILES.
- MAY USE VEGETATED CHANNELS (SEE E11).

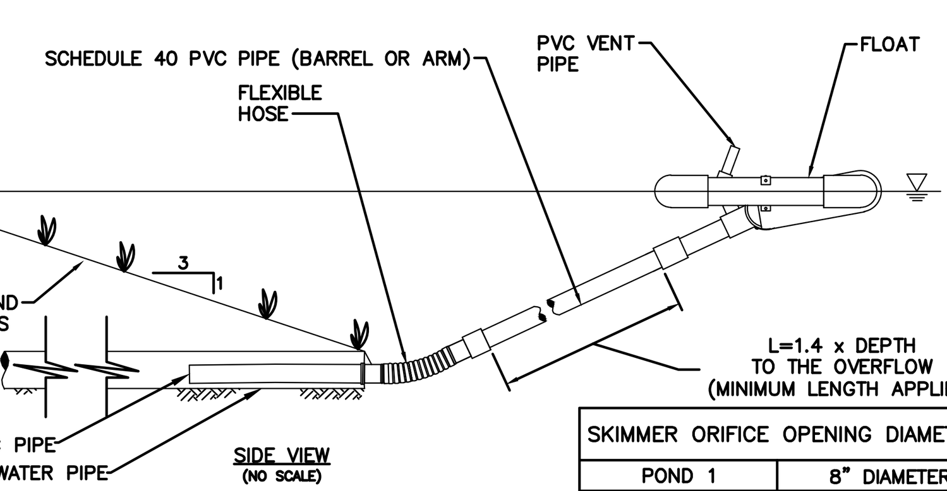
INSTALLATION
1. REVIEW SITE PLAN TO DETERMINE AREAS SUBJECT TO EROSIVE SURFACE RUNOFF, CONSTRUCTION AREAS NEEDING PROTECTION FROM RUNOFF, OR COLLECTION AND CONVEYANCE AREAS REQUIRING RUNOFF BE DIRECTED INTO SEDIMENT BASINS OR TRAPS.
2. LOCATE DIVERSION DITCHES PRIOR TO EXCAVATION OF AREA TO BE PROTECTED AND WITH CONSIDERATION OF PRE-CONSTRUCTION DRAINAGE PATTERNS AND CAPACITIES.
3. TEMPORARY DIVERSION DITCHES SHOULD BE SIZED TO CARRY AT LEAST A 10-YEAR 24 HOUR STORM EVENT, UNLESS LOCAL ORDINANCES REQUIRE GREATER CAPACITY.
4. PERMANENT DIVERSION DITCHES SHOULD BE SIZED BY A PROFESSIONAL ENGINEER.
5. DITCHES SHOULD BE LOCATED ABOVE, NOT ON, A CUT OR FILL SLOPE AND SHOULD RUN ESSENTIALLY PERPENDICULAR TO THE DIRECTION OF RUNOFF.
6. DITCH SHOULD HAVE A MINIMUM 2' WIDE BOTTOM, A MINIMUM 18" DEPTH, WITH SIDE SLOPES 1:2 OR FLATTER.

INSTALLATION (CONT)
7. DITCH GRADE MINIMUM IS USUALLY 1%, MAXIMUM GRADE IS DEPENDENT UPON DITCH ARMORING, CAPACITY AND DIVERSION OUTLET (GENERALLY NOT GREATER THAN 10%).
8. DITCHES MAY BE VEGETATED OR STABILIZED WITH ROCK RIPRAP OR MATTING.
9. CARE SHOULD BE TAKEN TO PREVENT PLACEMENT OF MATERIAL FROM DITCH EXCAVATION INTO WATERBODIES, WETLANDS, OR OTHER SENSITIVE AREAS.
10. EXCAVATED MATERIAL SIDECAST ALONG DIVERSION DITCH SHOULD BE COMPACTED AND STABILIZED.
11. SEED AND MULCH DITCHES WITH LESS THAN 5% GRADE; RIPRAP AND SOD DITCHES WITH GREATER THAN 5% GRADE.

MAINTENANCE
- DIVERSION SHOULD BE INSPECTED AFTER EVERY RAINFALL.
- SEDIMENT SHOULD BE REMOVED FROM THE DIVERSION DITCH AND REPAIRS MADE AS NECESSARY.
- MOW TO REMOVE EXCESS GROWTH OF WOODY VEGETATION (DESIGN CONSIDERATION).
- EXCEPT FOR MAINTENANCE, KEEP VEHICLES OUT OF THE DITCH.
- DIVERSION DITCHES SHOULD NOT ADVERSELY IMPACT UPSTREAM OR DOWNSTREAM PROPERTIES.
- USE MAY BE LIMITED BY QUANTITY OF DIVERTED RUNOFF.
- SEEDING DITCHES WILL DELAY USE UNTIL COVER ESTABLISHED.

D8 DIVERSION DITCH
NTS





NOTES
1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.

MAINTENANCE
- INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.

SKIMMER ORIFICE OPENING DIAMETERS	
POND 1	8" DIAMETER
POND 2	8" DIAMETER
POND 3	5" DIAMETER
POND 4	6" DIAMETER

D9 TEMPORARY SEDIMENT BASIN SKIMMER OUTLET
NTS

SEED TYPE	ZONE 1 LOWER PENINSULA (SOUTH OF U.S. 10)	ZONE 2 LOWER PENINSULA (NORTH OF U.S. 10)	ZONE 3 UPPER PENINSULA	AMOUNT per 1,000 sq.ft.	AMOUNT per acre
OATS, BARLEY	4/1 – 9/15	4/15 – 8/1	5/1 – 8/1	2 lbs.	96 lbs.
ANNUAL RYE	8/1 – 10/15	8/1 – 10/10	8/1 – 11/1	3 lbs.	120 lbs.
WHEAT	9/20 – 10/15	9/10 – 10/10	9/10 – 10/1	3 lbs.	120 lbs.
BUCKWHEAT	6/1 – 7/15	6/1 – 7/15	6/15 – 7/15	2 lbs.	75 lbs.
PERENNIAL RYEGRASS	8/1 – 10/15	6/1 – 8/1	8/1 – 10/1	0.5 lbs.	20 lbs.

SOURCE: ADAPTED FROM USDA NRCS TECHNICAL GUIDE #342 (1999)

INSTALLATION
1. REVIEW CONSTRUCTION PHASING AND SOIL EROSION CONTROL PLAN TO IDENTIFY AREAS REQUIRING TEMPORARY SEEDING.
2. SELECT ANNUAL GRASS SEED FOR TEMPORARY COVER AREAS.
3. SEED MIXES MAY VARY, SHOULD ONLY CONTAIN ANNUAL, NON-AGGRESSIVE SPECIES, AND GENERALLY INCLUDE RYE, WHEAT, OR OAT SPECIES. SEED MIXES SHOULD BE OBTAINED FROM A SEED SUPPLIER AS SEED MIXES ARE DEPENDENT ON SOIL TYPE, LIGHT, MOISTURE, AND USE APPLICATION.
4. PREPARE SEEDBED BY REMOVAL OF CONSTRUCTION/WOODY DEBRIS. THEN SCARIFY OR RAKE SEEDBED.
5. SLOPES STEEPER THAN 1:3 SHOULD BE ROUGHENED.
6. APPLY SEED AS SOON AS POSSIBLE AFTER SEEDBED PREPARATION. MULCH IMMEDIATELY AFTER SEEDING ALL SLOPES, UNSTABLE SOILS, HEAVY CLAY SOILS, AND ALL AREAS ADJACENT TO WETLANDS, WATERCOURSES, OR SENSITIVE AREAS.
7. THE TIME TO SEED IS DEPENDENT ON THE CLIMATE OF THE AREA. MICHIGAN HAS THREE CLIMATIC ZONES.
8. PROTECT SEEDED AREAS FROM PEDESTRIAN/VEHICULAR TRAFFIC.
9. DIVERT CONCENTRATED FLOWS AWAY FROM SEEDED AREA UNTIL VEGETATION IS ESTABLISHED.
10. INSPECT TEMPORARY SEEDED AREAS WEEKLY AND FOLLOWING EACH RAIN EVENT UNTIL FINAL GRADING AND STABILIZATION ACTIVITIES ARE COMPLETED.
11. MUST BE FOLLOWED BY PERMANENT SEEDING.

MAINTENANCE
- SEEDS NEED ADEQUATE TIME TO ESTABLISH.
- MAY NOT BE APPROPRIATE IN AREAS WITH FREQUENT TRAFFIC.
- SEEDED AREA MAY REQUIRE IRRIGATION IN DRY PERIODS.

D10 TEMPORARY SEEDING
NTS

PLANTING ZONES:	LOWER PENINSULA (SOUTH OF T20N) ZONE 1	LOWER PENINSULA (NORTH OF T20N) ZONE 2	UPPER PENINSULA ZONE 3
SEEDING WINDOW PERMANENT SEEDING	4/15 – 10/10	5/1 – 10/1	5/1 – 9/20
SEEDING WINDOW DORMANT SEEDING*	11/15 – Freeze	11/01 – Freeze	11/01 – Freeze

SOURCE: ADAPTED FROM MDOT INTERIM 2003 STANDARD SPECIFICATIONS FOR CONSTRUCTION

	ZONE 1 LOWER PENINSULA (SOUTH OF U.S. 10)	ZONE 2 Lower PENINSULA (NORTH OF U.S. 10)	ZONE 3 UPPER PENINSULA
SEEDING DATES (WITH IRRIGATION OR MULCH)	4/1 – 8/1	5/1 – 9/20	5/1 – 9/10
SEEDING DATES (W/O IRRIGATION OR MULCH)	4/1 – 5/20 or 8/10 – 10/1	5/1 – 6/10 or 8/1 – 9/20	5/1 – 6/15 or 8/1 – 9/20
DORMANT SEEDING DATES*	11/1 – FREEZE	10/25 – FREEZE	10/25 – FREEZE

SOURCE: ADAPTED FROM USDA NRCS TECHNICAL GUIDE #342 (1999)

* DORMANT SEEDING IS FOR USE IN THE LATE FALL AFTER THE SOIL TEMPERATURE REMAINS CONSISTENTLY BELOW 50 F, PRIOR TO THE GROUND FREEZING. THIS PRACTICE IS APPROPRIATE IF CONSTRUCTION ON A SITE IS COMPLETED IN THE FALL BUT THE SEED WAS NOT PLANTED PRIOR TO RECOMMENDED SEEDING DATES. NO SEED GERMINATION WILL TAKE PLACE UNTIL SPRING. A COOL SEASON ANNUAL GRASS MAY BE ADDED IN AN ATTEMPT TO HAVE SOME FALL GROWTH.

- MULCH MUST BE USED WITH DORMANT SEED.
- DO NOT SEED WHEN THE GROUND IS FROZEN OR SNOW COVERED.
- DO NOT USE A DORMANT SEED MIX ON GRASSED WATERWAYS.

INSTALLATION
1. REVIEW SESC PLAN AND CONSTRUCTION PHASING TO IDENTIFY AREAS IN NEED OF PERMANENT VEGETATIVE STABILIZATION.
2. SELECT PERENNIAL GRASS AND GROUND COVER FOR PERMANENT COVER.
3. SEED MIXES VARY. HOWEVER, THEY SHOULD CONTAIN NATIVE SPECIES.
4. SEED MIXES SHOULD BE SELECTED THROUGH CONSULTATION WITH A CERTIFIED SEED PROVIDER AND WITH CONSIDERATION OF SOIL TYPE, LIGHT, MOISTURE, USE APPLICATIONS, AND NATIVE SPECIES CONTENT.
5. SOIL TESTS SHOULD BE PERFORMED TO DETERMINE THE NUTRIENT AND PH LEVELS IN THE SOIL. THE PH MAY NEED TO BE ADJUSTED TO BETWEEN 6.5 AND 7.0.
6. PREPARE A 3-5" DEEP SEEDBED, WITH THE TOP 3-4" CONSISTING OF TOPSOIL.
7. SLOPES STEEPER THAN 1:3 SHOULD BE ROUGHENED.
8. APPLY SEED AS SOON AS POSSIBLE AFTER SEEDBED PREPARATION. SEED MAY BE BROADCAST BY HAND, HYDROSEEDING, OR BY USING MECHANICAL DRILLS.
9. MULCH IMMEDIATELY AFTER SEEDING.
10. DORMANT SEED MIXES ARE FOR USE AFTER THE GROWING SEASON, USING SEED WHICH LIES DORMANT IN THE WINTER AND BEGINS GROWING AS SOON AS SITE CONDITIONS BECOME FAVORABLE.
11. PROTECT SEEDED AREAS FROM PEDESTRIAN OR VEHICULAR TRAFFIC.
12. DIVERT CONCENTRATED FLOWS AWAY FROM THE SEEDED AREA UNTIL VEGETATION IS ESTABLISHED.

MAINTENANCE
- INSPECT WEEKLY AND WITHIN 24 HOURS FOLLOWING EACH RAIN EVENT IN THE FIRST FEW MONTHS FOLLOWING INSTALLATION TO BE SURE SEED HAS GERMINATED AND PERMANENT VEGETATIVE COVER IS BEING ESTABLISHED.
- ADD SUPPLEMENTAL SEED AS NECESSARY.
- SEEDS NEED ADEQUATE TIME TO ESTABLISH.
- MAY NOT BE APPROPRIATE IN AREAS WITH FREQUENT TRAFFIC.
- SEEDED AREAS MAY REQUIRE IRRIGATION DURING DRY PERIODS.
- SEEDING SUCCESS IS SITE SPECIFIC, CONSIDER MULCHING OR SODDING WHEN NECESSARY.

D11 PERMANENT SEEDING
NTS

SWPP NOTES:
1. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE SWPPP ON THE SITE FOR THE DURATION OF CONSTRUCTION.
2. THE CONTRACTOR SHALL ADHERE TO THE SWPPP DURING CONSTRUCTION OPERATIONS.
3. THE SWPPP INCLUDES SPECIFICATION SECTION 01150, THE SWPPP NARRATIVE AND ASSOCIATED APPENDICES, AND THE SWPPP DRAWINGS AND ASSOCIATED DETAIL SHEETS.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN AND REPAIR ALL BMPS DURING CONSTRUCTION.
5. ALL EARTH-DISTURBING CONSTRUCTION ACTIVITIES SHALL BE PERFORMED WITHIN THE LIMITS OF DISTURBANCE AS INDICATED ON THE SWPPP DRAWINGS.
6. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE LIMITS OF DISTURBANCE SHOWN ON THE DRAWINGS AND FIELD-STAKING THE LIMIT OF DISTURBANCE LINE PRIOR TO THE START OF CONSTRUCTION.
7. PERIMETER EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED PRIOR TO THE START OF ANY LAND CLEARING OR GRADING ACTIVITIES.
8. THE CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED BY THESE PLAN DRAWINGS AND IMPLEMENT ADDITIONAL MEASURES AS DICTATED BY SITE CONDITIONS.
9. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY SEDIMENTATION RESULTING FROM WORK ON THIS SITE IS CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS.
10. SLOPES ARE TO BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
11. CONTRACTOR LAYDOWN, STAGING AND STOCKPILE AREAS ARE TO BE LOCATED WITHIN THE PERMITTED LIMITS OF DISTURBANCE.
12. SILT FENCE IS TO BE INSTALLED AROUND THE PERIMETER OF ON-SITE SOIL STOCKPILE AREAS AS DICTATED BY SITE CONDITIONS. ADDITIONALLY, INACTIVE PORTIONS OF THE STOCKPILE AREAS ARE TO BE STABILIZED AS REQUIRED HEREIN.
13. IMPLEMENT TEMPORARY STABILIZATION MEASURES ON ANY DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES WILL NOT RESUME FOR 14 DAYS OR MORE. IMPLEMENTATION OF TEMPORARY STABILIZATION MEASURES MUST BE INITIATED IMMEDIATELY AND COMPLETED WITHIN SEVEN (7) DAYS FROM WHEN CONSTRUCTION ACTIVITIES TEMPORARILY CEASED ON ANY PORTION OF THE SITE.
14. EXPOSED AREAS ARE TO BE SEEDED/STABILIZED AS SPECIFIED WITHIN SEVEN (7) DAYS FOLLOWING THE CONCLUSION OF FINAL GRADING IN THAT AREA.
15. THE CONTRACTOR IS RESPONSIBLE FOR REGULARLY CHECKING SEEDED AREAS TO SEE THAT A GOOD STAND OF VEGETATION IS ESTABLISHED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED. THE CONTRACTOR IS RESPONSIBLE TO ENSURE VEGETATION IS ESTABLISHED FOR A WARRANTY PERIOD OF TWO FULL GROWING SEASONS.
16. TRACKING OF SOIL AND SEDIMENT ONTO OFF-SITE ROADWAYS SHALL BE MINIMIZED THROUGH THE USE OF APPROPRIATE MEASURES. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ANY SOIL OR SEDIMENT TRACKED ONTO THE ROADWAYS.
17. THE CONTRACTOR SHALL BRING TO THE SITE AND USE ONLY EQUIPMENT THAT IS WELL-MAINTAINED AND WITHOUT LEAKS.
18. NO VEHICLES AND EQUIPMENT CLEANING IS ALLOWED AT LOCATIONS WHERE RUNOFF SHALL FLOW DIRECTLY INTO A WATER COURSE.
19. EMPTY CANISTERS, CANS, OR OTHER CHEMICAL CONTAINERS (I.E. FROM HYDRAULIC FLUIDS, ETC.) AND ALL OTHER WASTE MATERIALS ARE TO BE KEPT IN APPROPRIATE SEALED WASTE CONTAINERS AND UNTIL THEY CAN BE REMOVED FROM THE SITE FOR PROPER OFF-SITE DISPOSAL.

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
CONSTRUCTION PLANS

2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

DESIGNED BY:

WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

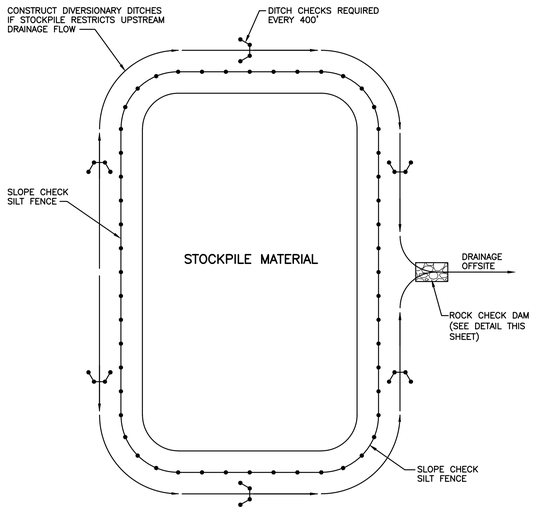
EROSION CONTROL DETAILS

DRAWN BY RMM | ISSUE 1 | ISSUE DATE 05/14/15 | SHEET NO. C305
CHECKED BY BJH | MEIJER PROJECT NO. | WOOLPERT PROJECT NO. 74485

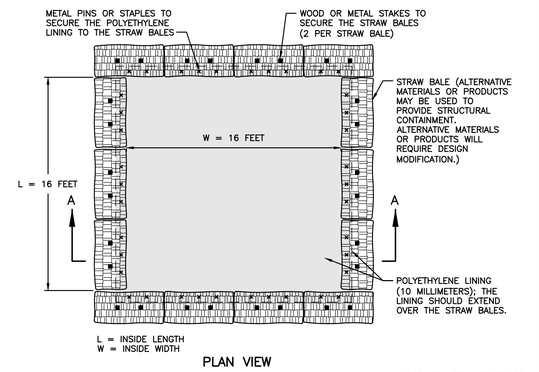
EROSION CONTROL SCHEDULE

EROSION CONTROL MEASURE	MAINTENANCE	INSTALLATION SEQUENCE
STONE ENTRANCE	INSPECT WEEKLY, AFTER STORM EVENTS, AND AFTER HEAVY USE; RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL; TOP DRESS WITH CLEAN STONE AS NEEDED; REMOVE ALL MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS IMMEDIATELY	PRIOR TO CLEARING AND GRADING
SILT FENCE	INSPECT AFTER STORM EVENTS; REPAIR ANY AREAS OF DECOMPOSITION OR DAMAGE TO FENCE MATERIAL; REMOVE SEDIMENT AT DEPTH OF ONE HALF FENCE HEIGHT AT LOWEST POINT OR IF FABRIC BULGES; AVOID UNDERMINING DURING CLEANOUT	PRIOR TO CLEARING AND GRADING
EXISTING INLET PROTECTION	WEEKLY, AFTER STORM EVENTS, AND AS NEEDED	PRIOR TO CLEARING AND GRADING
TREE PROTECTION	WEEKLY, AFTER STORM EVENTS, AND AS NEEDED	PRIOR TO CLEARING AND GRADING
TEMPORARY DIVERSIONS	INSPECT WEEKLY AND AFTER EACH STORM EVENT; REMOVE SEDIMENT FROM CHANNEL AND REINFORCE RIDGE AS NEEDED; REPAIR OUTLET DAMAGE IMMEDIATELY; REMOVE SEDIMENT FROM TRAPS WHEN 50% FULL; WHEN WORK AREA IS STABILIZED, REMOVE RIDGE, FILL CHANNEL. REMOVE TEMPORARY SLOPE DRAINS, AND STABILIZE ALL DISTURBED AREAS	ALONG WITH ROUGH GRADING
TEMPORARY SEDIMENT TRAP	INSPECT AFTER STORM EVENTS; REMOVE SEDIMENT AT ONE HALF DESIGN DEPTH; REPLACE SPILLWAY GRAVEL FACING IF CLOGGED; REPAIR EROSION AND HOLES AS NEEDED; REPLACE DISPLACED RIPRAP	DURING CLEARING AND PRIOR TO GRADING
TEMPORARY SEEDING	INSPECT PERIODICALLY TO VERIFY ADEQUATE ESTABLISHMENT OF VEGETATIVE STANDS; RESEED AND MULCH AS NEEDED; INSPECT AFTER STORM EVENTS AND REPAIR EROSION DAMAGE; TOP DRESS FALL SEEDED WHEAT OR RYE SEEDINGS WITH 50 LBS/AC OF NITROGEN IN FEBRUARY OR MARCH IF NITROGEN DEFICIENCY IS APPARENT; WATER AS NEEDED	AFTER ROUGH GRADING
PERMANENT SEEDING	INSPECT PERIODICALLY AND AFTER STORM EVENTS UNTIL VEGETATIVE STAND IS ESTABLISHED; ADD FERTILIZER AFTER GROWING SEASON PER SOIL TEST RECOMMENDATIONS; REPAIR DAMAGED, BARE, OR SPARSE AREAS BY FILLING, REPREPARING THE SEED BED, FERTILIZING, AND/OR SEEDING AND MULCHING	AFTER FINISH GRADING OF EACH AREA
EROSION CONTROL BLANKET	INSPECT FOR AREAS OF EROSION BELOW THE BLANKET AFTER EACH STORM EVENT; REPAIR AREAS OF EROSION BY REMOVING AFFECTED PORTION OF BLANKET, ADD SOIL, RESEED, RELAY AND STAPLE BLANKET; INSPECT PERIODICALLY AFTER VEGETATION IS ESTABLISHED	AFTER FINISH GRADING
STRAW BALES	INSPECT THE BALES AFTER EACH STORM EVENT; REMOVE SEDIMENT DEPOSITS TO PROVIDE STORAGE FOR THE NEXT STORM BEING CAREFUL NOT TO DAMAGE OR UNDERCUT THE BALES; REPLACE DAMAGED OR DETERIORATED BALES IMMEDIATELY	AFTER FINISH GRADING
INLET PROTECTION	INSPECT FABRIC BARRIER AFTER STORM EVENTS AND MAKE NEEDED REPAIRS IMMEDIATELY; REMOVE SEDIMENT FROM THE POOL AREA WHILE AVOIDING DAMAGING OR UNDERCUTTING THE FABRIC	AFTER EACH INLET IS PLACED
SEED, SOD & LANDSCAPE AROUND UNITS FINISHED	KEEP SOD MOIST UNTIL FULLY ROOTED; WATER AS NEEDED	AFTER FINISHED GRADING AROUND FINISHED UNITS
REMOVAL OF STRAW BALES	N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED
REMOVAL OF INLET PROTECTION	N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED
REMOVAL OF SILT FENCE	N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED

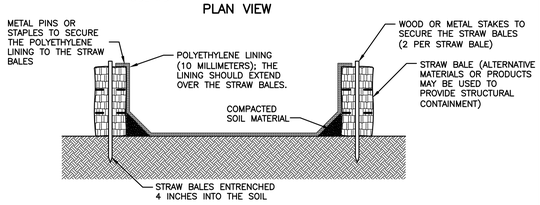
D12 EROSION CONTROL SCHEDULE
NTS



D13 STOCKPILE EROSION CONTROL
NTS

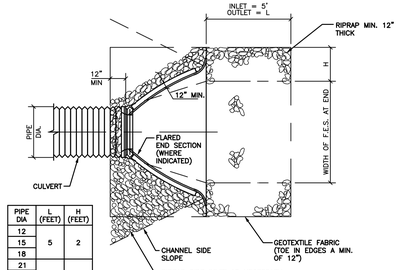


PLAN VIEW



SECTION A–A

D14 CONCRETE WASHOUT DETAIL
NTS

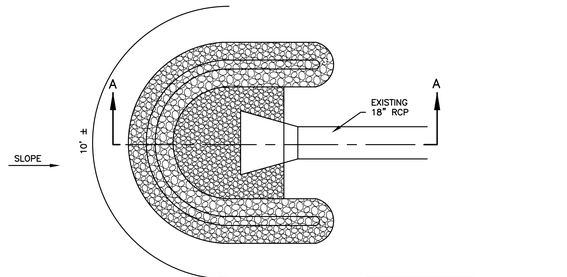


PIPE DIA	L (FEET)	H (FEET)
12		
15	5	2
18		
21		
24	10	4
30		
36		
42		
48	15	6
54		
60		
66		
72	20	8
78		
84		

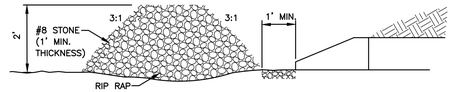
NOTE:
"H" PROVIDES FOR RIPRAP UP TO THE MIDPOINT OF THE AVERAGE PIPE DIAMETER IN THE GROUPING.

"L" FOLLOWS MINIMUM APRON LENGTHS BASED ON EMPIRICAL FORMULA U.S.E.P.A. 1976 L=3D/33/2 FOR TAILWATERS GREATER THAN 0.5D (D=DIAMETER).

D15 RIPRAP END TREATMENT DETAIL
NTS

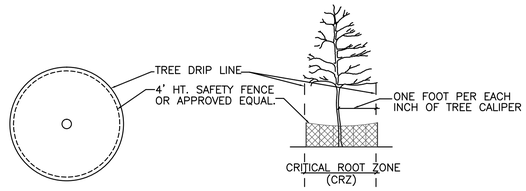


NOTE:
EXTEND ROCK DONUT UNTIL TOP MEETS EXISTING GRADE AT THE SAME ELEVATION.



SECTION A–A

D16 ROCK DONUT DETAIL
NTS



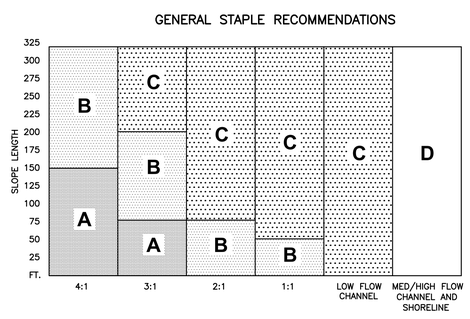
TREE PROTECTION

1. FENCING SHALL BE PLACED AT THE DRIP LINE OF TREES TO BE PROTECTED DURING CONSTRUCTION. THE DRIP LINE OF A TREE IS DEFINED BY A CIRCLE ON THE GROUND BENEATH A TREE HAVING IT'S CENTER POINT AT THE CENTER OF THE TRUNK AND HAVING A RADIUS EQUAL TO ONE (1') FOOT PER CALIPER INCH OF THE TREE MEASURED 4.5 FEET ABOVE THE GROUND. FENCING SHALL BE ORANGE SAFETY FENCE ON METAL POSTS OR 2"x4" STANDARDS WITH 1"x4" RAILS, 4' HT. OR AN APPROVED EQUAL.

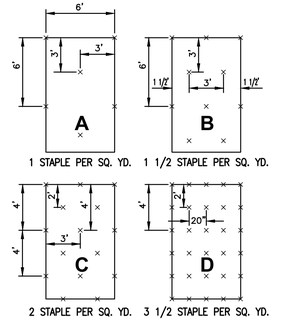
2. GROUPS OF TREES MAY BE FENCED AS ONE.

D17 TREE PROTECTION DETAIL
NTS

GENERAL STAPLE RECOMMENDATIONS



SLOPE GRADIENT



NOTE:
1. CHANNEL LINING UTILIZE STAPLE PATTERN "C" WITH ADDITIONAL STAPLES ON SIDE SLOPES AT PROJECTED WATER LINE.
2. STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN GREEN EROSION CONTROL BLANKETS. STAPLE PATTERNS MAY VERY DEPENDING UPON SOIL TYPE AND AVERAGE RAINFALL.
3. AT SLOPE LENGTHS GREATER THAN 300 FEET OR WHERE DRAINAGE OVER LARGE AREAS IS DIRECTED ONTO THE BLANKETS, STAPLE PATTERN "C" SHOULD BE UTILIZED.

D18 EROSION CONTROL MAT INSTALLAION GUIDE DETAIL
NTS

JONATHAN R. SHEIDLER REGISTERED No. 10707500 STATE OF INDIANA PROFESSIONAL ENGINEER
5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

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STORE FRK
CONSTRUCTION PLANS

2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

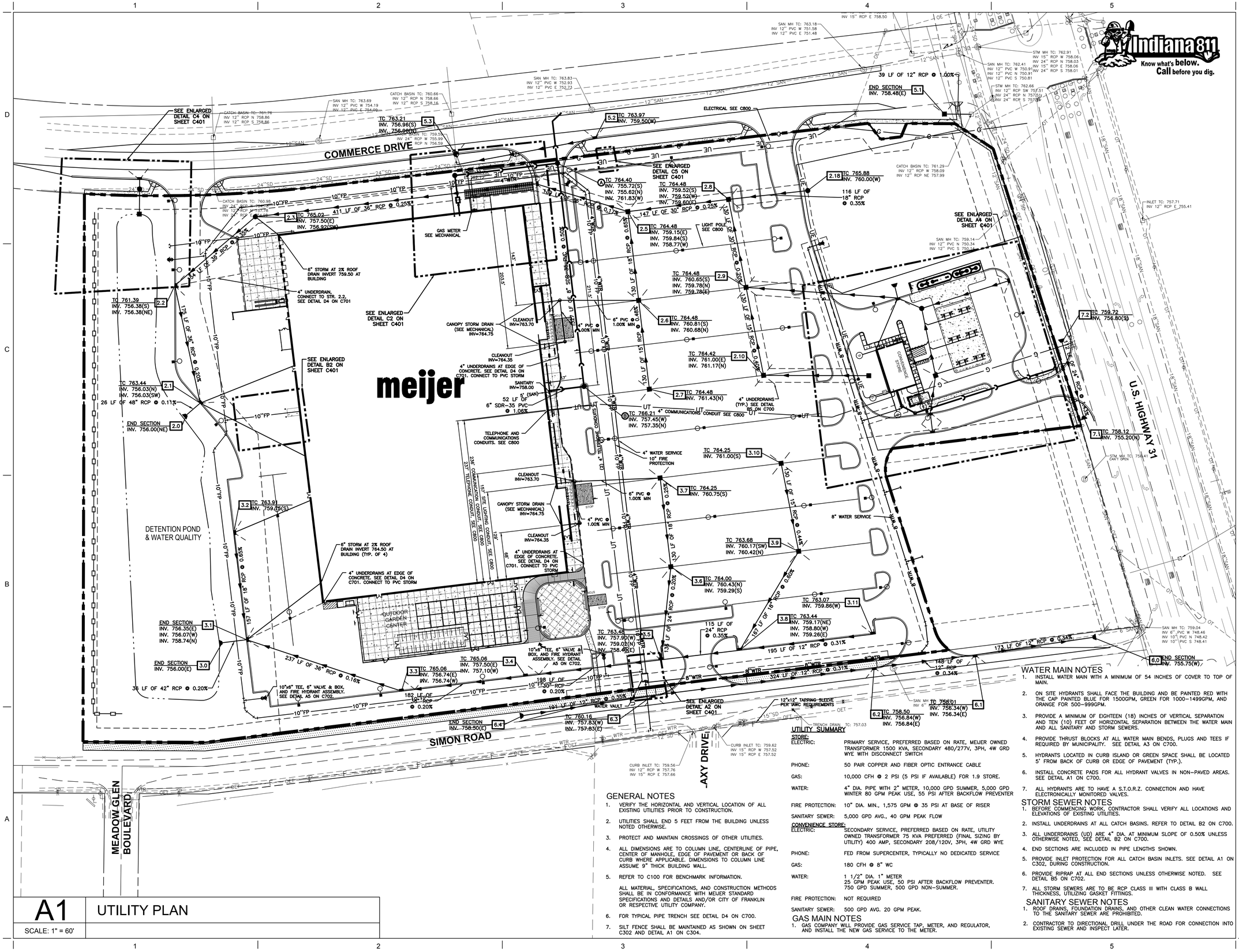
DESIGNED BY:

WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

EROSION CONTROL DETAILS

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
RMM	1	05/14/15	C306

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



A1	UTILITY PLAN
SCALE: 1" = 60'	

GENERAL NOTES

1. VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. UTILITIES SHALL END 5 FEET FROM THE BUILDING UNLESS NOTED OTHERWISE.
3. PROTECT AND MAINTAIN CROSSINGS OF OTHER UTILITIES.
4. ALL DIMENSIONS ARE TO COLUMN LINE, CENTERLINE OF PIPE, CENTER OF MANHOLE, EDGE OF PAVEMENT OR BACK OF CURB WHERE APPLICABLE. DIMENSIONS TO COLUMN LINE ASSUME 9" THICK BUILDING WALL.
5. REFER TO C100 FOR BENCHMARK INFORMATION.

   ALL MATERIAL, SPECIFICATIONS, AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH MEIJER STANDARD SPECIFICATIONS AND DETAILS AND/OR CITY OF FRANKLIN OR RESPECTIVE UTILITY COMPANY.
6. FOR TYPICAL PIPE TRENCH SEE DETAIL D4 ON C700.
7. SILT FENCE SHALL BE MAINTAINED AS SHOWN ON SHEET C302 AND DETAIL A1 ON C304.

UTILITY SUMMARY

STORE:

ELECTRIC:	PRIMARY SERVICE, PREFERRED BASED ON RATE, MEIJER OWNED TRANSFORMER 1500 KVA, SECONDARY 480/277V, 3PH, 4W GRD WYE WITH DISCONNECT SWITCH
PHONE:	50 PAIR COPPER AND FIBER OPTIC ENTRANCE CABLE
GAS:	10,000 CFH @ 2 PSI (5 PSI IF AVAILABLE) FOR 1.9 STORE.
WATER:	4" DIA. PIPE WITH 2" METER, 10,000 GPD SUMMER, 5,000 GPD WINTER 80 GPM PEAK USE, 55 PSI AFTER BACKFLOW PREVENTER
FIRE PROTECTION:	10" DIA. MIN., 1,575 GPM @ 35 PSI AT BASE OF RISER
SANITARY SEWER:	5,000 GPD AVG., 40 GPM PEAK FLOW

CONVENIENCE STORE:

ELECTRIC:	SECONDARY SERVICE, PREFERRED BASED ON RATE, UTILITY OWNED TRANSFORMER 75 KVA PREFERRED (FINAL SIZING BY UTILITY) 400 AMP, SECONDARY 208/120V, 3PH, 4W GRD WYE
PHONE:	FED FROM SUPERCENTER, TYPICALLY NO DEDICATED SERVICE
GAS:	180 CFH @ 8" WC
WATER:	1 1/2" DIA. 1" METER 25 GPM PEAK USE, 50 PSI AFTER BACKFLOW PREVENTER. 750 GPD SUMMER, 500 GPD NON-SUMMER.
FIRE PROTECTION:	NOT REQUIRED
SANITARY SEWER:	500 GPD AVG. 20 GPM PEAK.

GAS MAIN NOTES

1. GAS COMPANY WILL PROVIDE GAS SERVICE TAP, METER, AND REGULATOR, AND INSTALL THE NEW GAS SERVICE TO THE METER.

WATER MAIN NOTES

1. INSTALL WATER MAIN WITH A MINIMUM OF 54 INCHES OF COVER TO TOP OF MAIN.
2. ON SITE HYDRANTS SHALL FACE THE BUILDING AND BE PAINTED RED WITH THE CAP PAINTED BLUE FOR 1500GPM, GREEN FOR 1000–1499GPM, AND ORANGE FOR 500–999GPM.
3. PROVIDE A MINIMUM OF EIGHTEEN (18) INCHES OF VERTICAL SEPARATION AND TEN (10) FEET OF HORIZONTAL SEPARATION BETWEEN THE WATER MAIN AND ALL SANITARY AND STORM SEWERS.
4. PROVIDE THRUST BLOCKS AT ALL WATER MAIN BENDS, PLUGS AND TEES IF REQUIRED BY MUNICIPALITY. SEE DETAIL A3 ON C700.
5. HYDRANTS LOCATED IN CURB ISLAND OR GREEN SPACE SHALL BE LOCATED 5' FROM BACK OF CURB OR EDGE OF PAVEMENT (TYP.).
6. INSTALL CONCRETE PADS FOR ALL HYDRANT VALVES IN NON–PAVED AREAS. SEE DETAIL A1 ON C700.
7. ALL HYDRANTS ARE TO HAVE A S.T.O.R.Z. CONNECTION AND HAVE ELECTRONICALLY MONITORED VALVES.

STORM SEWER NOTES

1. BEFORE COMMENCING WORK, CONTRACTOR SHALL VERIFY ALL LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES.
2. INSTALL UNDERDRAINS AT ALL CATCH BASINS. REFER TO DETAIL B2 ON C700.
3. ALL UNDERDRAINS (UD) ARE 4" DIA. AT MINIMUM SLOPE OF 0.50% UNLESS OTHERWISE NOTED, SEE DETAIL B2 ON C700.
4. END SECTIONS ARE INCLUDED IN PIPE LENGTHS SHOWN.
5. PROVIDE INLET PROTECTION FOR ALL CATCH BASIN INLETS. SEE DETAIL A1 ON C302, DURING CONSTRUCTION.
6. PROVIDE RIPRAP AT ALL END SECTIONS UNLESS OTHERWISE NOTED. SEE DETAIL B5 ON C702.
7. ALL STORM SEWERS ARE TO BE RCP CLASS III WITH CLASS B WALL THICKNESS, UTILIZING GASKET FITTINGS.

SANITARY SEWER NOTES

1. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
2. CONTRACTOR TO DIRECTIONAL DRILL UNDER THE ROAD FOR CONNECTION INTO EXISTING SEWER AND INSPECT LATER.

Indiana 811 — Know what's below. Call before you dig.

NORTH

0 60 120 180

GRAPHIC SCALE IN FEET

UTILITY PLAN LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED SANITARY SEWER
- PROPOSED STORM DRAIN
- PROPOSED ROOF DRAIN
- WTR — PROPOSED WATER MAIN
- UE — UE — PROPOSED ELECTRIC
- OE — PROPOSED OVERHEAD ELECTRIC
- G — G — PROPOSED GAS
- UT — UT — PROPOSED TELEPHONE
- OT — PROPOSED OVERHEAD TELEPHONE
- UC — UC — PROPOSED CABLE
- PROPOSED CONDUIT
- F — F — PROPOSED FIBEROPTIC
- PROPOSED UNDERDRAIN
- PROPOSED EASEMENT
- PROPOSED CATCH BASIN
- PROPOSED CURB INLET
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED FLARED END SECTION
- PROPOSED CLEAN OUT
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED ELECTRICAL MANHOLE
- PROPOSED TELEPHONE MANHOLE
- PROPOSED LIGHT POLE
- (A) PROPOSED SANITARY STRUCTURE CALLOUT
- 1.1 PROPOSED STORM STRUCTURE CALLOUT
- PROPOSED PLUG

JONATHAN R. SHEDLER — REGISTERED — No. 10707500 — STATE OF INDIANA — PROFESSIONAL ENGINEER — 5/14/15

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STORE FRK
CONSTRUCTION PLANS

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REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

DESIGNED BY:

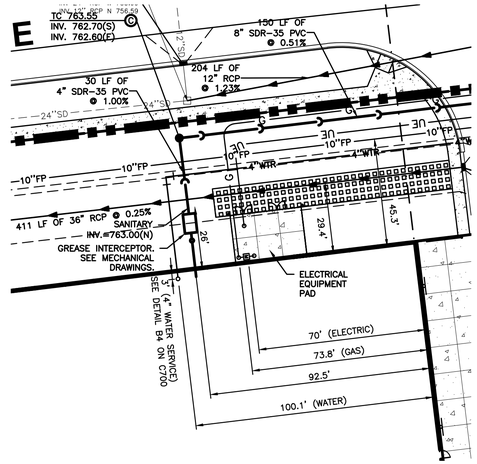
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

UTILITY PLAN

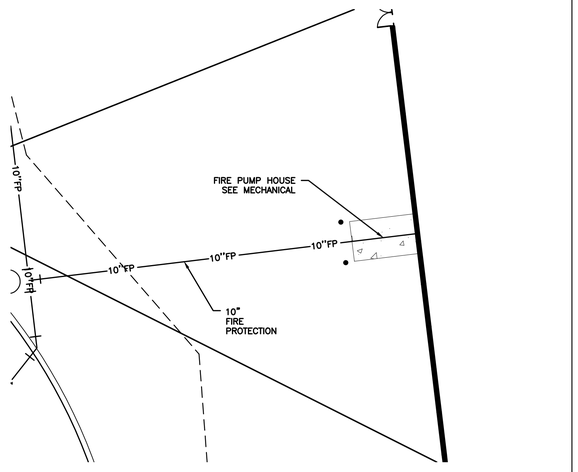
DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C400

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



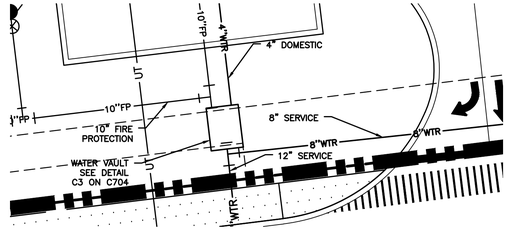
C2 ELECTRICAL EQUIPMENT PAD DETAIL

SCALE: 1" = 30' | A1/C400



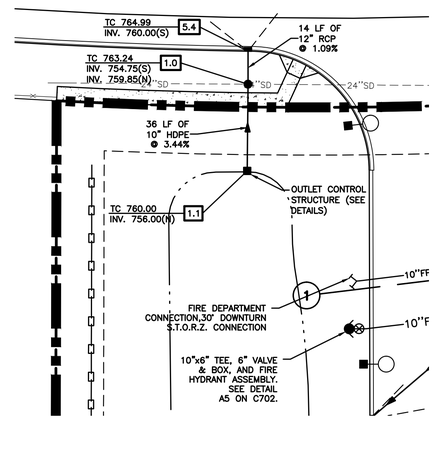
B2 FIRE PUMP DETAIL

SCALE: 1" = 20' | A1/C400



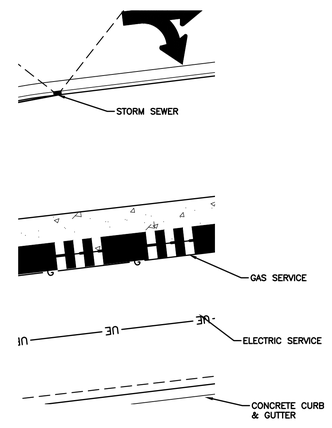
A2 WATER VAULT DETAIL

SCALE: 1" = 20' | A1/C400



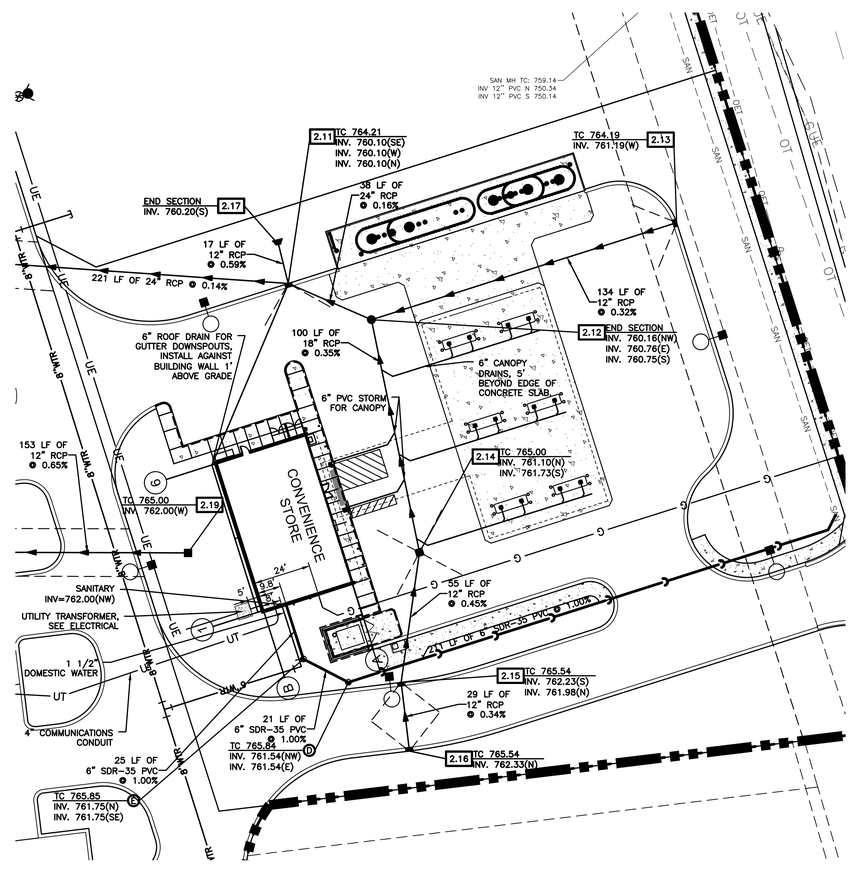
C4 POND OUTFALL DETAIL

SCALE: 1" = 30' | A1/C400



C5 UTILITY CORRIDOR

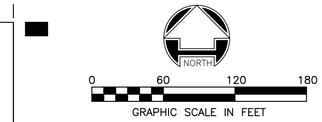
SCALE: 1" = 10' | A1/C400



A4 ENLARGED CONVIENCE STORE UTILITIES

SCALE: 1" = 30' | A1/C400

Indiana 811
Know what's below.
Call before you dig.



UTILITY PLAN LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED SANITARY SEWER
- PROPOSED STORM DRAIN
- PROPOSED ROOF DRAIN
- PROPOSED WATER MAIN
- PROPOSED ELECTRIC
- PROPOSED OVERHEAD ELECTRIC
- PROPOSED GAS
- PROPOSED TELEPHONE
- PROPOSED OVERHEAD TELEPHONE
- PROPOSED CABLE
- PROPOSED CONDUIT
- PROPOSED FIBEROPTIC
- PROPOSED UNDERDRAIN
- PROPOSED CATCH BASIN
- PROPOSED CURB INLET
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED FLARED END SECTION
- PROPOSED CLEAN OUT
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED ELECTRICAL MANHOLE
- PROPOSED TELEPHONE MANHOLE
- PROPOSED LIGHT POLE
- PROPOSED SANITARY STRUCTURE CALLOUT
- PROPOSED STORM STRUCTURE CALLOUT
- PROPOSED PLUG

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STORE FRK
CONSTRUCTION PLANS

2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

DESIGNED BY:

WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

UTILITY PLAN

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C401

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485

STORM STRUCTURE TABLE

STRUCTURE ID	DESCRIPTION	RIM/GRATE	INVERT	CASTING	REMARKS
1.0	48" Dia. MH	763.24	10" = 754.75 (S) 12" = 759.85 (N)	1022	DOGHOUSE MANHOLE
1.1	Outlet Control Structure	760.00	10" = 756.00 (N)	–	SEE DETAIL C1 ON C704
2.0	48" Conc. End Section		48" = 756.00 (NE)	–	SEE DETAIL A5 ON C702
2.1	72" Dia. MH	763.44	36" = 756.03 (N) 48" = 756.03 (SW)	7030 T6	SEE DETAIL D1 ON C700
2.2	72" Dia. MH	761.39	36" = 756.38 (S) 36" = 756.38 (NE)	7030 T6	SEE DETAIL D1 ON C700
2.3	72" Dia. MH	765.02	36" = 757.50 (E) 36" = 756.92 (SW)	1022	SEE DETAIL D1 ON C700
2.4	72" Dia. MH	765.92	36" = 758.54 (E) 36" = 758.54 (W)	7065	SEE DETAIL D1 ON C700
2.5	60" Dia. MH	764.48	30" = 759.15 (E) 18" = 759.84 (S) 36" = 758.77 (W)	5235	SEE DETAIL D1 ON C700
2.6	2'x2' Inlet Box	764.48	15" = 760.81 (S) 18" = 760.68 (N)	5235	SEE DETAIL D4 ON C702
2.7	4'x2' Inlet Box	764.48	15" = 761.43 (N)	5236	
2.8	60" Dia. MH	764.48	30" = 759.52 (S) 30" = 759.52 (W) 18" = 759.60 (E)	5232	SEE DETAIL D1 ON C700
2.9	60" Dia. MH	764.48	15" = 760.65 (S) 30" = 759.78 (N) 24" = 759.78 (E)	5235	SEE DETAIL D1 ON C700
2.10	4'x2' Inlet Box	764.42	12" = 761.00 (E) 15" = 761.17 (N)	5236	SEE DETAIL D2 ON C700
2.11	48" Dia. MH	764.21	24" = 760.10 (SE) 24" = 760.10 (W) 12" = 760.10 (N)	7065	SEE DETAIL D3 ON C700
2.12	48" Dia. MH	764.68	24" = 760.16 (NW) 12" = 760.76 (E) 18" = 760.75 (S)	1022	SEE DETAIL D1 ON C700
2.13	2'x2' Inlet Box	764.19	12" = 761.19 (W)	7065	SEE DETAIL D3 ON C700
2.14	2'x2' Inlet Box	765.00	18" = 761.10 (N) 12" = 761.73 (S)	5235	SEE DETAIL D3 ON C700
2.15	2'x2' Inlet Box	765.54	12" = 762.23 (S) 12" = 761.98 (N)	7065	SEE DETAIL D4 ON C702
2.16	2'x2' Inlet Box	765.54	12" = 762.33 (N)	7065	SEE DETAIL D4 ON C702
2.17	12" Conc. End Section		12" = 760.20 (S)	–	SEE DETAIL A5 ON C702
2.18	60" Dia MH	765.88	18" = 760.00 (W)	1022	SEE DETAIL D1 ON C700
2.19	2'x2' Inlet Box	765.00	12" = 762.00 (W)	6508	SEE DETAIL D3 ON C700
3.0	42" Conc. End Section		42" = 756.00 (E)	–	SEE DETAIL A5 ON C702

STORM STRUCTURE TABLE

STRUCTURE ID	DESCRIPTION	RIM/GRATE	INVERT	CASTING	REMARKS
3.1	72" Dia. MH	765.14	36" = 756.35 (E) 42" = 756.07 (W) 18" = 758.74 (N)	7030 T6	SEE DETAIL D1 ON C700
3.2	2'x3' Inlet Box	763.91	18" = 759.75 (S)	7030 T6	SEE DETAIL D2 ON C700
3.3	72" Dia. MH	765.06	36" = 756.74 (E) 36" = 756.74 (W)	7030 T6	SEE DETAIL D1 ON C700
3.4	60" Dia. MH	765.06	30" = 757.50 (E) 36" = 757.10 (W)	7030 T6	SEE DETAIL D1 ON C700
3.5	60" Dia. MH	763.48	30" = 757.90 (W) 24" = 759.02 (N) 24" = 758.40 (E)	7065	SEE DETAIL D1 ON C700
3.6	4'x2' Inlet Box	764.00	18" = 760.43 (N) 24" = 759.29 (S)	5236	SEE DETAIL D2 ON C700
3.7	4'x2' Inlet Box	764.25	18" = 760.75 (S)	5236	SEE DETAIL D2 ON C700
3.8	60" Dia MH	763.44	18" = 759.17 (NE) 24" = 758.80 (W) 12" = 759.26 (E)	7065	SEE DETAIL D2 ON C700
3.9	4'x2' Inlet Box	763.68	18" = 760.17 (SW) 15" = 760.42 (N)	5236	SEE DETAIL D2 ON C700
3.10	4'x2' Inlet Box	764.25	15" = 761.00 (S)	5236	SEE DETAIL D1 ON C700
3.11	2'x2' Inlet Box	763.07	12" = 759.86 (W)	7065	SEE DETAIL D1 ON C700
5.1	2'x2' Inlet Box	761.50	12" = 758.48 (E)	6508	SEE DETAIL D4 ON C702
5.2	2'x3' Inlet Box	763.97	12" = 759.50 (W)	7030	SEE DETAIL D2 ON C700
5.3	2'x3' Inlet Box	763.21	12" = 756.96 (S) 12" = 756.96 (N)	7030	SEE DETAIL D2 ON C700
5.4	2'x3' Inlet Box	764.99	12" = 760.00 (S)	7030	SEE DETAIL D2 ON C700
6.0	12" End Section		12" = 755.75 (W)	–	SEE DETAIL A5 ON C702
6.1	2'x3' Inlet Box	758.01	12" = 756.34 (W) 12" = 756.34 (E)	7030	SEE DETAIL D2 ON C700
6.2	2'x3' Inlet Box	758.50	12" = 756.84 (W) 12" = 756.84 (E)	7030	SEE DETAIL D2 ON C700
6.3	2'x3' Inlet Box	760.16	12" = 757.83 (W) 12" = 757.83 (E)	7030	SEE DETAIL D2 ON C700
6.4	12" Conc. End Section		12" = 758.50 (E)	–	SEE DETAIL A5 ON C702
7.1	24" End Section		24" = 755.20 (N)	–	SEE DETAIL A5 ON C702
7.2	24" End Section		24" = 756.80 (S)	–	SEE DETAIL A5 ON C702

NOTE: ALL CASTING TYPES SHOWN ARE EAST JORDAN IRON WORKS

SANITARY STRUCTURE TABLE

STRUCTURE ID	DESCRIPTION	RIM	INVERT	CASTING
A	Sanitary Manhole	764.40	8" = 755.72 (S) 8" = 755.62 (N) 8" = 761.83 (W)	1022
B	Sanitary Manhole	766.21	6" = 757.45 (W) 8" = 757.35 (N)	1022
C	Sanitary Manhole	763.55	4" = 762.70 (S) 8" = 762.60 (E)	1022
D	Sanitary Cleanout	765.84	6" = 761.54 (NW) 6" = 761.54 (E)	
E	Sanitary Cleanout	765.85	6" = 761.75 (N) 6" = 761.75 (SE)	

NORTH

0 60 120 180

GRAPHIC SCALE IN FEET

UTILITY PLAN LEGEND

- EXISTING BOUNDARY
- PROPOSED BOUNDARY
- PROPOSED SANITARY SEWER
- PROPOSED STORM DRAIN
- PROPOSED ROOF DRAIN
- WTR — PROPOSED WATER MAIN
- UE — PROPOSED ELECTRIC
- OE — PROPOSED OVERHEAD ELECTRIC
- G — PROPOSED GAS
- UT — PROPOSED TELEPHONE
- OT — PROPOSED OVERHEAD TELEPHONE
- UC — PROPOSED CABLE
- PROPOSED CONDUIT
- F — PROPOSED FIBEROPTIC
- PROPOSED UNDERDRAIN
- PROPOSED CATCH BASIN
- PROPOSED CURB INLET
- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED FLARED END SECTION
- PROPOSED CLEAN OUT
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE
- PROPOSED ELECTRICAL MANHOLE
- PROPOSED TELEPHONE MANHOLE
- PROPOSED LIGHT POLE
- MH-A — PROPOSED SANITARY STRUCTURE CALLOUT
- PROPOSED STORM STRUCTURE CALLOUT
- PROPOSED PLUG

JONATHAN R. SHEIDLER REGISTERED No. 10707500 STATE OF INDIANA PROFESSIONAL ENGINEER 5/14/15

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2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

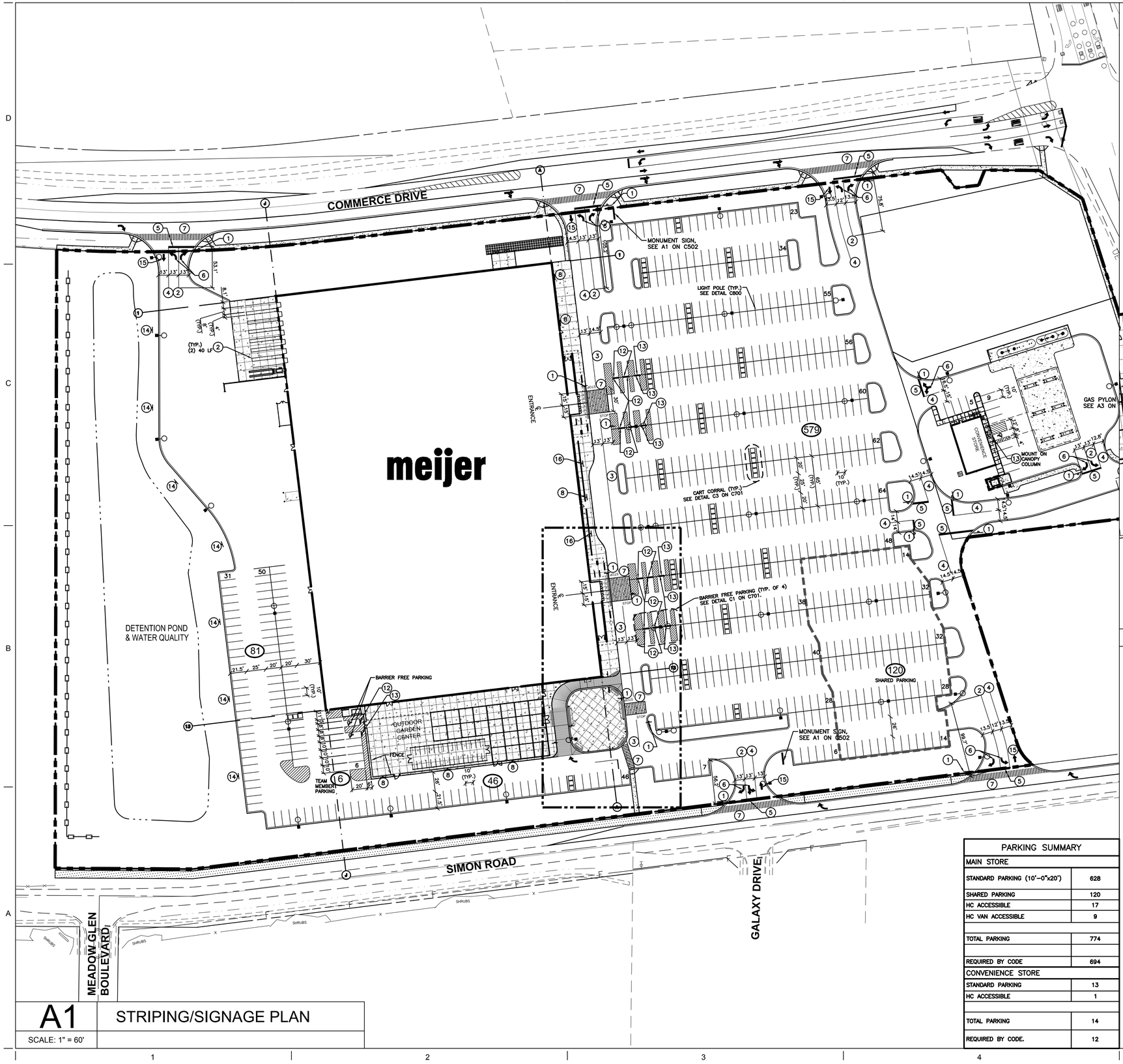
DESIGNED BY:
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

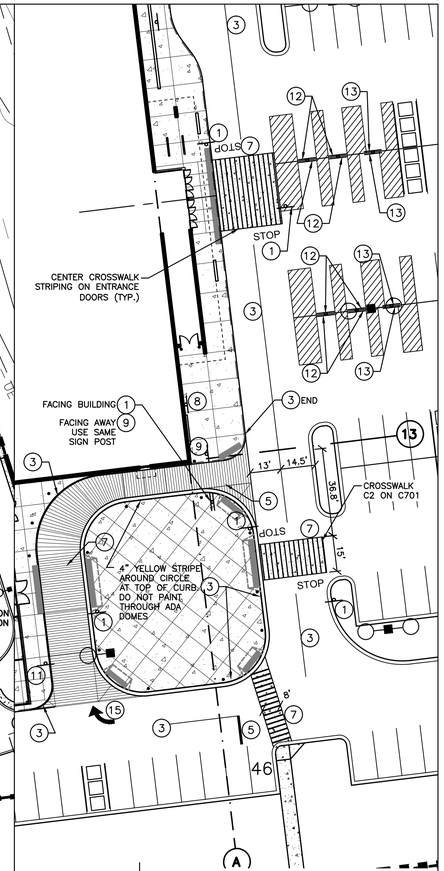
Indiana 811 Know what's below. Call before you dig.

STRUCTURE DATA TABLES

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C402

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485





PARKING SUMMARY	
MAIN STORE	
STANDARD PARKING (10'-0"x20')	628
SHARED PARKING	120
HC ACCESSIBLE	17
HC VAN ACCESSIBLE	9
TOTAL PARKING	774
REQUIRED BY CODE	694
CONVENIENCE STORE	
STANDARD PARKING	13
HC ACCESSIBLE	1
TOTAL PARKING	14
REQUIRED BY CODE.	12

A1 STRIPING/SIGNAGE PLAN

SCALE: 1" = 60'

B5 PHARMACY DRIVE-UP SIGNAGE ENLARGEMENT

SCALE: 1" = 30'

NORTH

0 60 120 180

GRAPHIC SCALE IN FEET

PAVEMENT STRIPING NOTES

ALL DIMENSIONS MEASURED FROM FACE OF BUILDING

REFER TO SHEET C701 FOR SIGNAGE STRIPING DETAILS

ALL PAVEMENT MARKING SHALL BE YELLOW IN COLOR UNLESS NOTED OTHERWISE.

CROSSWALK STRIPING TO BE CENTERED ON THE BUILDING AND GARDEN CENTER ENTRANCES.

BUILDING AND SITE SIGNAGE NOTES

LOCATE FIRE LANE SIGNS AT FRONT OF BUILDING AT THE EDGE OF CONCRETE SIDEWALK (4 SIGNS)

STOP SIGNS AND FIRE LANE SIGNS ALONG FRONT OF THE STORE TO BE ON MOVABLE CONCRETE BASES

LOCATE FIRE LANE SIGNS ALONG THE GARDEN CENTER ATTACHED TO THE FENCE (3 SIGNS).

LOCATE FIRE LANE SIGNS ALONG BACK OF BUILDING AND THE TRUCK DOCK AREAS AT 2 FT. BEHIND PAVEMENT IN THE GRASS AREA (7 SIGNS).

INSTALL CART CORRALS PROVIDED BY OWNER.

SIGNAGE / STRIPING LEGEND

1. "STOP" SIGN – SEE DETAIL B1 ON C701
2. 4" SINGLE SOLID LINE, WHITE
3. 4" SINGLE SOLID LINE, YELLOW
4. 4" DOUBLE SOLID LINE, YELLOW
5. 12" STOP LINE, WHITE
6. LANE ARROWS, WHITE, SEE DETAIL B5 ON C701 "ONLY", WHITE, SEE DETAIL B5 ON C701
7. CROSSWALK – SEE DETAIL C2 ON C701
8. "NO PARKING – FIRE LANE" SIGN
9. "WRONG WAY" SIGN
10. NOT USED
11. "PHARMACY DRIVE–UP" SIGN SEE DETAIL B1 ON C701
12. ACCESSIBLE SIGN SEE DETAIL B1 ON C701
13. VAN ACCESSIBLE SIGN SEE DETAIL B1 ON C701
14. "WARNING – STORMWATER DETENTION POND" SIGN SEE DETAIL B1 ON C702
15. ARROW DETAIL, B5, C701
16. (2) "CURB SIDE SERVICE" SIGN DETAIL B1, C701
17. NOT USED
18. NOT USED

NO PARKING AREAS 4" YELLOW OR BLUE STRIPE, PER MUNICIPAL STANDARDS @ 2' O.C. AT 45° TO PARKING SPACE

Indiana 811 Know what's below. Call before you dig.

JONATHAN R. SHEDLER REGISTERED No. 10707500 STATE OF INDIANA PROFESSIONAL ENGINEER 5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK CONSTRUCTION PLANS

2929 WALKER AVENUE
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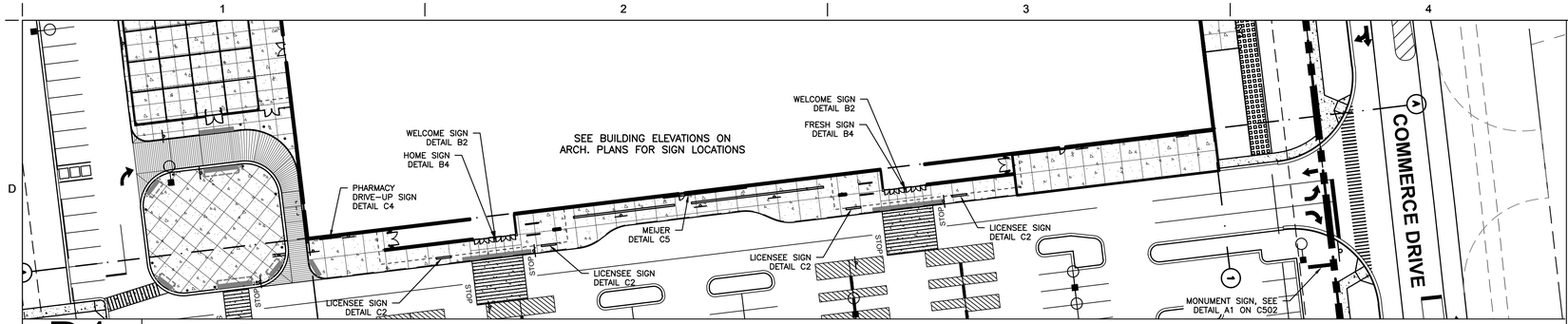
STRIPING/SIGNAGE PLAN

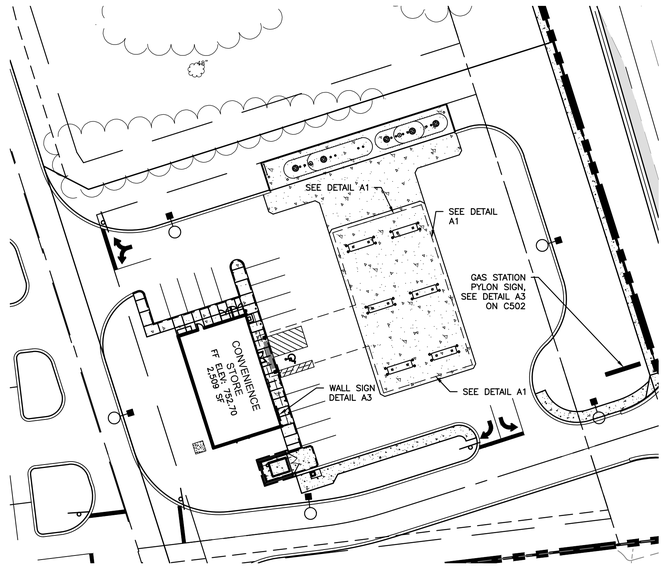
DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
KAC	1	05/14/15	C500

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



D1 EXTERIOR SIGNAGE PLAN - DS1.9 PROTOTYPE STORE

1" = 40' | A1/C500



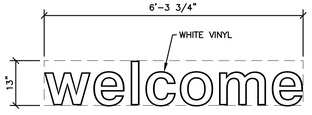
B1 EXTERIOR SIGNAGE PLAN - GAS STATION / CONVENIENCE STORE

1" = 40' | A1/C500

10 SQ. FT. EACH

C2 LICENSEE SIGN

NTS



SURFACE APPLIED WHITE
WINDOW VINYL.

6.8 SQ. FT. EACH

B2 WELCOME SIGN

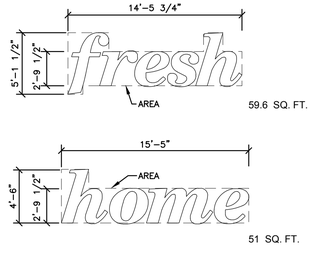
NTS | WV13H7

NON -ILLUMINATED 1" DEEP EXTERIOR QUALITY FOAM LETTERS.

63 SQ. FT.

C4 PHARMACY SIGN

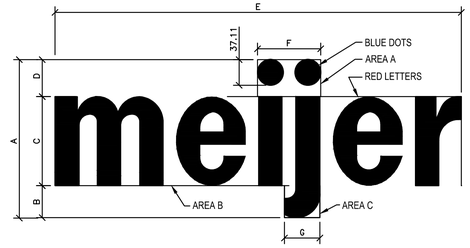
NTS | PD23H63B / PD23H63W



5" DEEP INTERNALLY ILLUMINATED WITH WHITE LED'S. SIDES OF LETTERS PAINTED WHITE.

B4 FRESH / HOME SIGNS

NTS | 54H-F60H51B



	A	B	C	D	E	F	G	SQ. FT.
WL120H499	17'-8"	3'-7 3/4"	10'-0"	4'-1 1/2"	45'-3 3/4"	7'-6 1/2"	4'-1/4"	498.9

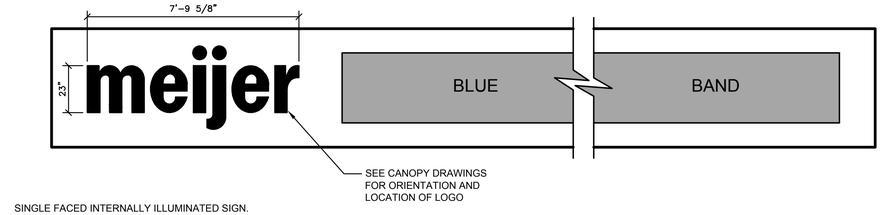
INTERNALLY ILLUMINATED "MEIJER" CHANNEL LETTERS TO MATCH CORPORATE LOGO & COLORS.

SIDES OF LETTERS & RETAINERS TO BE PAINTED TO MATCH RESPECTIVE FACE COLORS.

498.9 SQ. FT.

C5 MEIJER LOGO SIGN

NTS

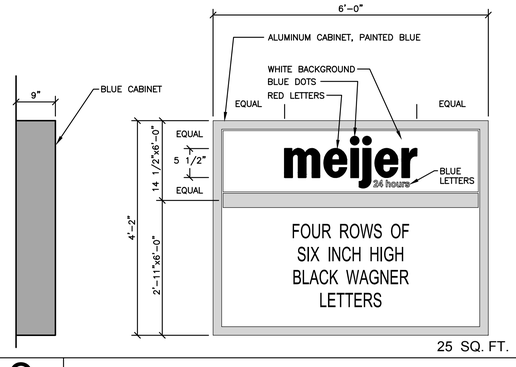


SINGLE FACED INTERNALLY ILLUMINATED SIGN.
"MEIJER" LOGO TO MATCH CORPORATE LOGO & COLORS.
LOGO TO BE ROUTED OUT AND PUSHED THRU FLUSH.

16.7 SQ. FT. EACH

A1 GAS CANOPY SIGN LAYOUT (3 SIDES OF CANOPY)

NTS | CL38H17



25 SQ. FT.

A3 CONVENIENCE STORE WALL SIGN

NTS | GAS CCW25

STORE SIGNAGE

DETAIL	NO.	DESCRIPTION	SQUARE FEET
B2	2	welcome	13.6
C2	4	Licensee	40
C5	1	meijer	498.9
B4	1 ea.	fresh / home	110.6
C4	1	pharmacy	63.0
		Total	726.1

CONVENIENCE STORE SIGNAGE

DETAIL	NO.	DESCRIPTION	SQUARE FEET
A3	1	Convenience Store Wall Sign	25
A1	3	Canopy Logo	50.1
		Total	75.1

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PROFESSIONAL ENGINEER
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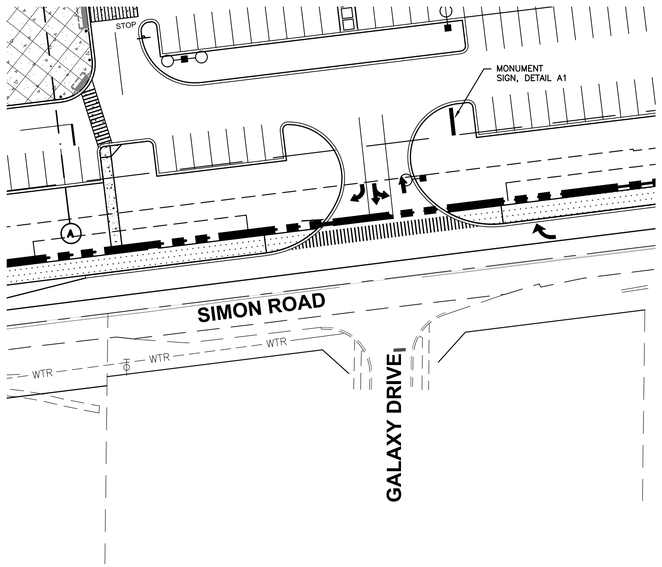
EXTERIOR SIGNAGE PLAN AND DETAILS

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
JMC	1	05/14/15	C501

CHECKED BY: BJH | MEIJER PROJECT NO. | WOOLPERT PROJECT NO.: 74485



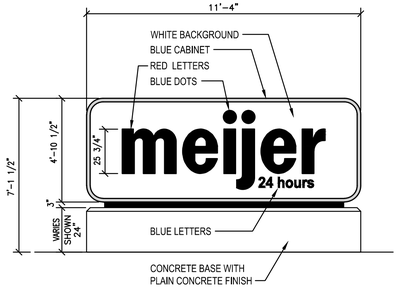
C1

EXTERIOR SIGNAGE PLAN - SIMON ROAD
ENTRANCE MONUMENT SIGN

1" = 40'

A1/C500

SITE SIGNAGE			
DETAIL	NO.	DESCRIPTION	SQUARE FEET
A1	2	Monument Sign	110.6
A5	1	Gas Pylon Sign	205.1



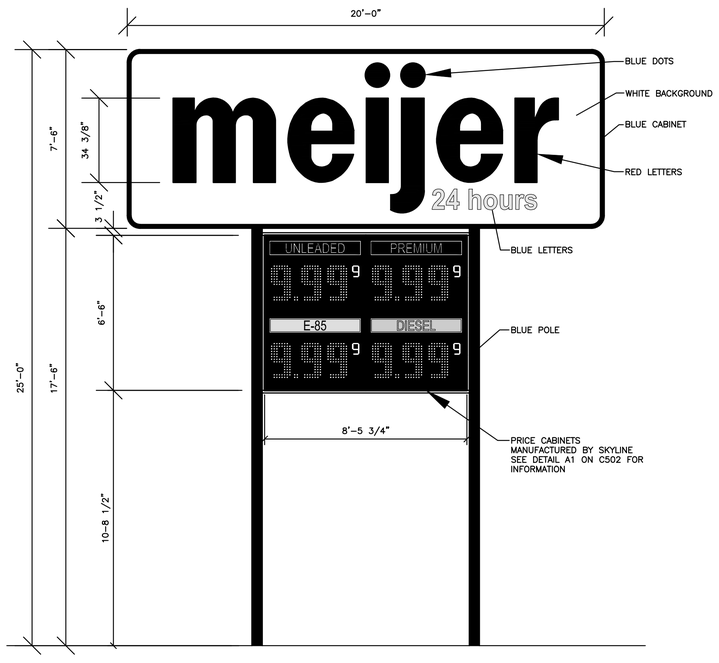
DOUBLE FACED INTERNALLY ILLUMINATED CABINET
FABRICATED ALUMINUM CABINET

55.3 SQ. FT. EACH

A1 MONUMENT SIGN

NTS

7HM55



SIGN CABINET: 150.0 SQ.FT.
PRICE CABINET: 55.1 SQ.FT.
TOTAL: 205.1 SQ.FT.

A3 GAS PYLON SIGN

NTS

25HP205PP

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EXTERIOR SIGNAGE PLAN AND DETAILS

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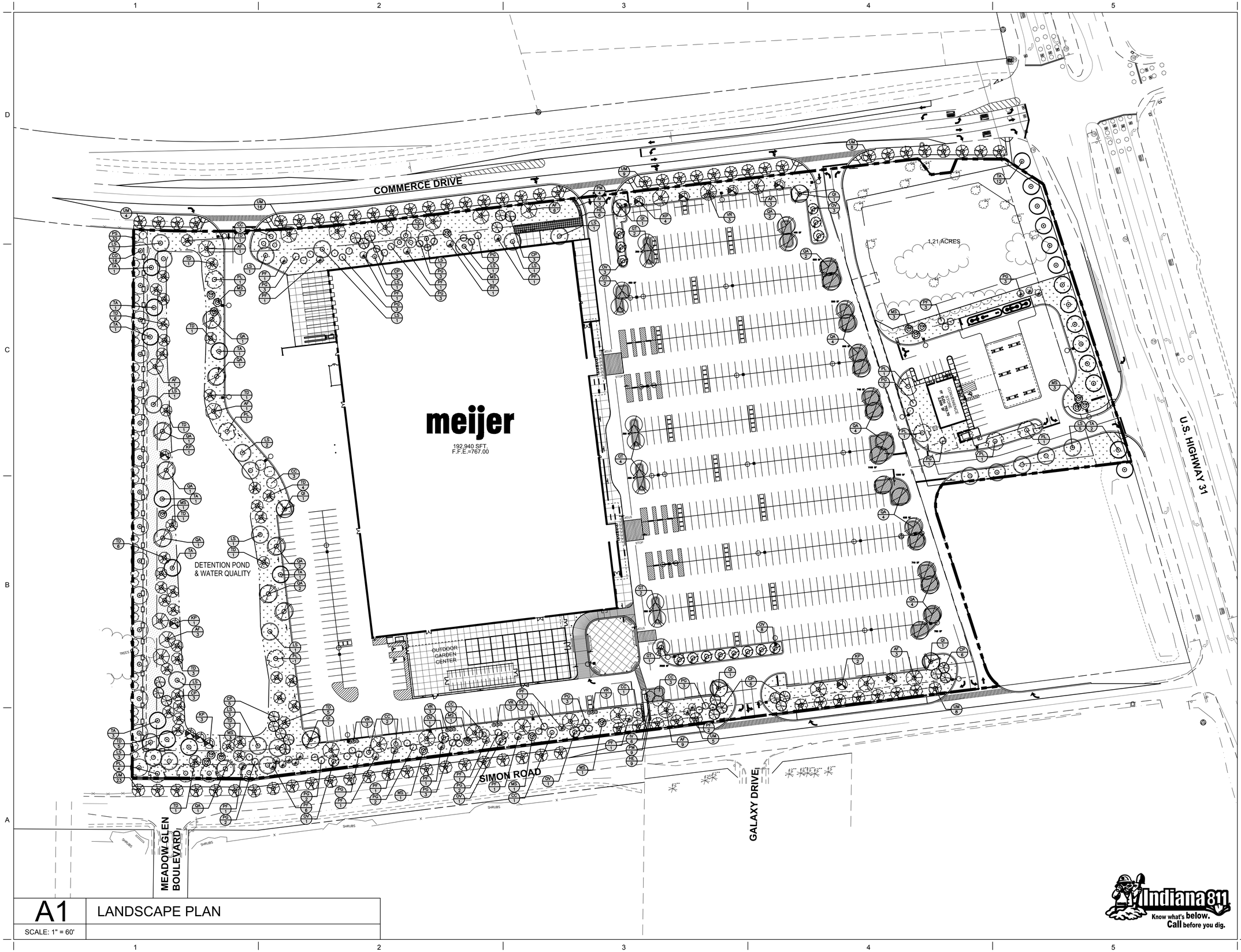
KAC	1	05/14/15	C502

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



NORTH

0 60 120 180

GRAPHIC SCALE IN FEET

LANDSCAPE NOTES

1. COORDINATE PLACEMENT OF PLANTS WITH UTILITY LOCATIONS. MAKE ADJUSTMENTS AS REQUIRED TO AVOID PLANTING OVER THE UTILITIES.
2. THE CENTER OF LARGE ISLANDS IS TO BE SIX INCHES HIGHER THAN TOP OF CURB. ENSURE ALL ISLANDS ARE SLOPED FOR POSITIVE DRAINAGE.
3. ALL AREAS THAT REQUIRE SEEDING SHALL RECEIVE 4" TO 6" MINIMUM TOPSOIL, UNLESS NOTED OTHERWISE.
4. SEED ALL AREAS INDICATED ON THE LANDSCAPE PLAN, THE SOIL EROSION CONTROL PLAN AND ALL DISTURBED AREA. REVIEW AREAS OF SEEDING WITH CONSTRUCTION MANAGER PRIOR TO ANY SEEDING. ANY AREAS DISTURBED BY THE CONTRACTOR WHICH ARE BEYOND THE LIMITS OF GRADING AND EARTHWORK SHALL BE SEEDED AT NO ADDITIONAL COST TO THE OWNER.
5. APPLY STARTER FERTILIZER (16-32-4) AT 250 POUNDS/ACRE TO SEEDED AREAS.
6. ALL LANDSCAPE ISLANDS SHALL BE 6" DEEP SHREDDED HARDWOOD MULCH EXCEPT AS NOTED.
7. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE FRANKLIN, INDIANA LANDSCAPE ORDINANCE.
8. ALL LANDSCAPE MATERIAL INSTALLED SHALL BE MAINTAINED BY THE LANDSCAPE CONTRACTOR UNTIL FINAL ACCEPTANCE BY THE OWNER.
9. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN, ANSI Z60.1, CURRENT EDITION.

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LANDSCAPE PLAN

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
JM	1	05/14/15	C600

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485

A1 | LANDSCAPE PLAN

SCALE: 1" = 60'

LAWN AREA SEED MIXTURE (TYPE A)			
COMMON NAME	PROPT BY WEIGHT	PERCENT PURITY	PERCENT GERMINATION
KENTUCKY BLUE GRASS	30%	90%	80%
RED FESCUE	50%	95%	80%
PERENNIAL RYE GRASS	20%	95%	80%
APPLICATION RATE: 8 LBS/1000 FT²			

NON-LAWN AREA (TYPE B)			
COMMON NAME	PROPT BY WEIGHT	PERCENT PURITY	PERCENT GERMINATION
KENTUCKY BLUE GRASS	10%	90%	80%
RED FESCUE	40%	95%	80%
PERENNIAL RYE GRASS	50%	95%	80%
APPLICATION RATE: 4 LBS/1000 FT²			

SHADE TREES

ORNAMENTAL & EVERGREEN TREES

SEED MIXTURE TYPE A (150,000 SF)

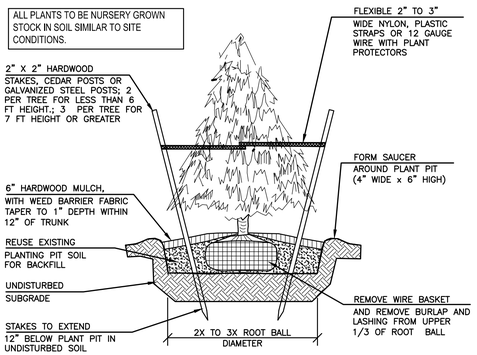
SEED MIXTURE TYPE B (55,000 SF)

SHREDDED HARDWOOD MULCH TO 6" DEPTH. (10,000 SF)

C1 LANDSCAPING LEGEND

NTS

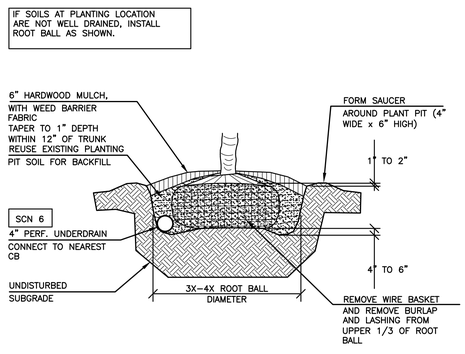
ALL PLANTS TO BE NURSERY GROWN STOCK IN SOIL SIMILAR TO SITE CONDITIONS.



B1 EVERGREEN TREE

NTS

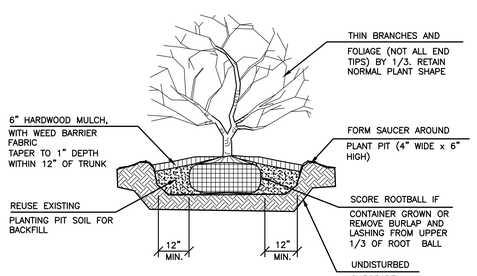
IF SOILS AT PLANTING LOCATION ARE NOT WELL DRAINED, INSTALL ROOT BALL AS SHOWN.



B2 POORLY DRAINED SOILS

NTS

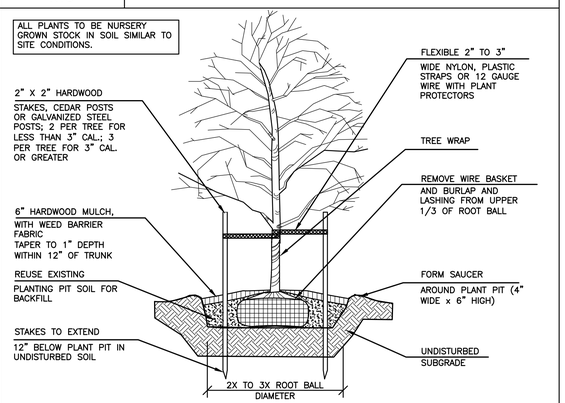
ALL PLANTS TO BE NURSERY GROWN STOCK IN SOIL SIMILAR TO SITE CONDITIONS.



A1 SHRUB PLANTING

NTS

ALL PLANTS TO BE NURSERY GROWN STOCK IN SOIL SIMILAR TO SITE CONDITIONS.



A2 DECIDUOUS TREE PLANTING

NTS

TAG	QTY	SCIENTIFIC NAME	COMMON NAME	COND.	SIZE	REMARKS
BROAD LEAF / DECIDUOUS TREE						
AF	26	Acer x freemanii 'Jeffersred'	Autumn Blaze Maple	B&B	2.5" cal. 14'ht. 7'wd	Full, well shaped
CO	16	Carya ovata	Shagbark Hickory	B&B	2.5" cal. 8'ht. 5'wd	Full, well shaped
CC	17	Cercis canadensis	Eastern Redbud	B&B	2.5" cal. 8'ht. 5'wd	Full, well shaped
CP	23	Crataegus phaenopyrum	Washington Hawthorn	B&B	2.5" cal. 8'ht. 5'wd	Full, well shaped
GT	11	Gleditsia triacanthos var. inermis 'Skyline'	Skyline Honeylocust	B&B	2.5" cal. 14'ht. 5'wd	Full, well shaped
KP	11	Koelreuteria paniculata	Golden Raintree	B&B	2.5" cal. 14'ht. 5'wd	Full, well shaped
LS	26	Liquidambar styraciflua 'Moraine'	Moraine Sweetgum	B&B	2.5" cal. 14'ht. 5'wd	Full, well shaped
MS	18	Malus 'Snowdrift'	Snowdrift Crabapple	B&B	2.5" cal. 8'ht. 5'wd	Full, well shaped
OV	18	Ostrya virginiana	Hop Hornbeam	B&B	2.5" cal. 8'ht. 5'wd	Full, well shaped
PL	11	Platanus x acerifolia 'Bloodgood'	London Planetree	B&B	2.5" cal. 14'ht. 7'wd	Full, well shaped
TD	40	Taxodium distichum	Bald Cypress	B&B	2.5" cal. 14'ht. 7'wd	Full, well shaped
TA	24	Tilia americana 'Redmond'	Redmond American Linden	B&B	2.5" cal. 14'ht. 7'wd	Full, well shaped
QA	29	Quercus alba	White Oak	B&B	2.5" cal. 14'ht. 7'wd	Full, well shaped
QI	6	Quercus imbricaria	Shingle Oak	B&B	2.5" cal. 14'ht. 7'wd	Full, well shaped
UM	73	Ulmus japonica x wilsoniana 'Morton'	Accolade Elm	B&B	2.5" cal. 14'ht. 7'wd	Full, well shaped
EVERGREEN TREE						
PG	25	Picea glauca 'Densata'	Black Hills Spruce	B&B	8'ht. x 4'wd.	Full to ground, well shaped
PF	43	Pinus flexis	Limber Pine	B&B	8'ht. x 4'wd.	Full to ground, well shaped
PS	32	Pinus strobus	Eastern White Pine	B&B	8'ht. x 4'wd.	Full to ground, well shaped
LARGE SHRUB						
VR	15	Viburnum rhytidophyllum	Leatherleaf Viburnum	B&B	24"ht. x 24"wd.	Full, vigorous
SMALL SHRUB						
IV	9	Itea virginica 'Little Henry'	Little Henry Sweetspire	#3 cont.	18"ht. x 18"wd.	Full, vigorous
PM	13	Pinus mugo 'Mops'	Dwarf Mugo Pine	#3 cont.	18"ht. x 18"wd.	Full, vigorous
PERENNIAL						
HE	15	Hemerocalis 'Happy Returns'	Happy Returns Daylily	#1 cont.		

A3 LANDSCAPE PLANT SCHEDULE

NTS

QUANTITIES ARE PROVIDED CONVIENCE ONLY, CONTRACTOR IS RESPONSIBLE FOR ALL QUANTITIES OF PLANTS ON LANDSCAPE PLAN.

NORTH

0 60 120 180

GRAPHIC SCALE IN FEET

LANDSCAPE CODE SUMMARY

STREET TREE STANDARDS – 6.15.B
ONE TREE PER 35 FEET OF STREET FRONTAGE
REQUIRED:
COMMERCE DR (1295.5 LF) = 37.0 TREES
US HIGHWAY 31 (488.7 LF) = 13.9 TREES
SIMON ROAD (1267.3 LF) = 36.2 TREES
PROVIDED:
COMMERCE DR: 37 TREES
US HIGHWAY 31: 14 TREES
SIMON ROAD: 36 TREES

PROPERTY INTERIOR REQUIREMENTS – 7.16.D
25% OF SITE TO BE YARD AREA PER 3.19 MIXED-USED: REGIONAL CENTER (MXR) REQUIREMENTS
1 TREE PER 1,500 SF OF REQUIRED YARD AREA
REQUIRED:
LOT 1: 223,898 SF OF REQ. OPEN SPACE = 149.3 TREES
LOT 3: 19,057 SF OF REQ. OPEN SPACE = 12.7 TREES

PROVIDED:
LOT 1: 150 TREES
LOT 3: 6 ORNAMENTAL TREES
6 EVERGREEN TREES

PARKING LOT PERIMETER REQUIREMENTS – 7.16.E
1 TREE AND 1 SHRUB FOR EVERY 80 LF OF PARKING ADJACENT TO PROPERTY LINE
REQUIRED:
COMMERCE DR (243 LF): 3.03 TREES & SHRUBS
SIMON ROAD (886 LF): 11.08 TREES & SHRUBS
PROVIDED:
COMMERCE DR (243 LF): 3 CANOPY TREES
3 SHRUBS
SIMON ROAD (886 LF): 11 CANOPY TREES
12 SHRUBS

PARKING LOT INTERIOR REQUIREMENTS – 7.16.F
5% OF ALL PAVED SURFACE TO BE LANDSCAPE AREAS
1 TREE PER 300 SF OF REQUIRED LANDSCAPE AREA
REQUIRED:
LOT 1: 417253 SF, PAVED SURVACE = 20,863 SF LNDSCP
20,863 SF LNDSCP = 69.5 TREES
LOT 3: 40,892 SF PAVED SURFACE = 2,045 SF LNDSCP
2,045 SF LNDSCP = 6.8 TREES
PROVIDED:
LOT 1: 44 CANOPY TREES
26 ORNAMENTAL TREES
LOT 3: 4 CANOPY TREES
3 EVERGREEN TREES

BUFFER YARD REQUIREMENTS – 7.17.A.2
BUFFER YARD TYPE 2: ONE DECIDUOUS TREE OR TWO CONIFEROUS TREES PER 25 LF OF BOUNDARY
REQUIRED:
SIMON ROAD (907.2 LF): 36.3 DECIDUOUS OR
72.6 CONIFEROUS
WEST BND (796 LF): 31.8 DECIDUOUS OR
63.7 CONIFEROUS
PROVIDED:
SIMON RD: 37 EVERGREEN TREES
20 ORNAMENTAL TREES
WEST BND: 16 CANOPY TREES
32 CONIFEROUS TREES

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
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(616) 453-6711

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CONSTRUCTION MANAGED BY:

DESIGNED BY:

WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE

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Suite 100
Indianapolis, IN 46278
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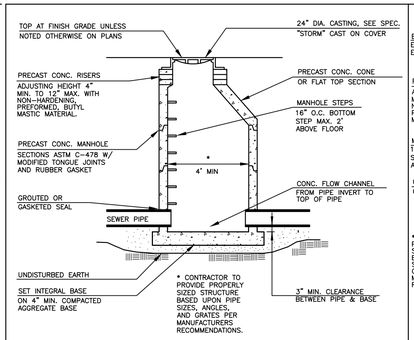
FAX: 317.291.5805

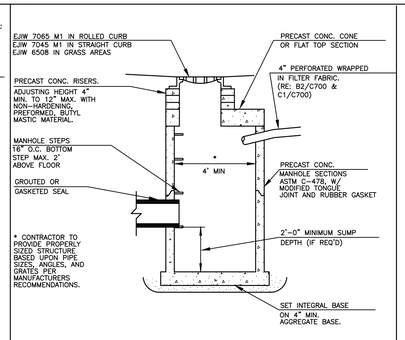
LANDSCAPE DETAILS

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
JM	1	05/14/15	C601

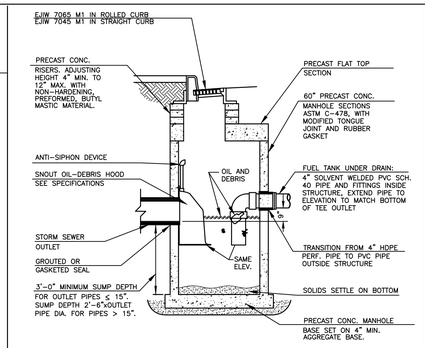
CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



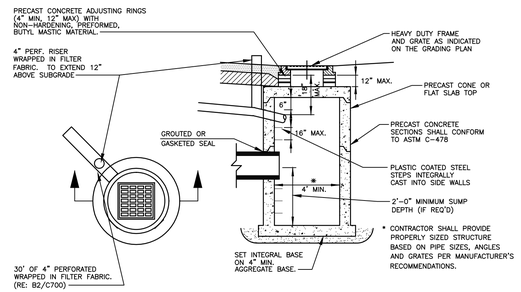
D1 TYP STORM MANHOLE
NTS | A1/C400



D2 TYP CATCH BASIN W/ 2 FT SUMP
NTS | A1/C400

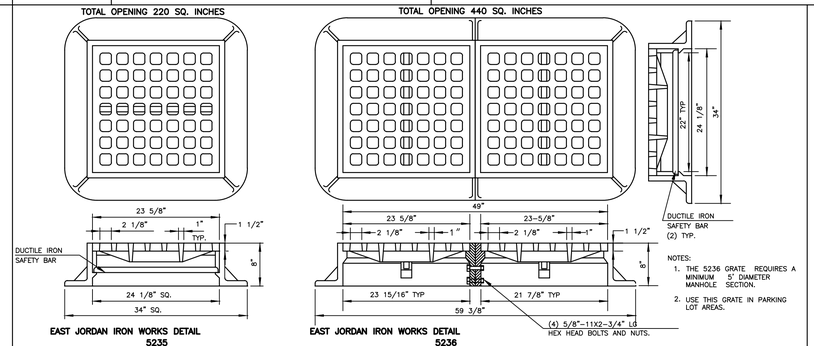


D3 ENVIRONMENTAL CATCH BASIN (C.STORE)
NTS | A1/C400



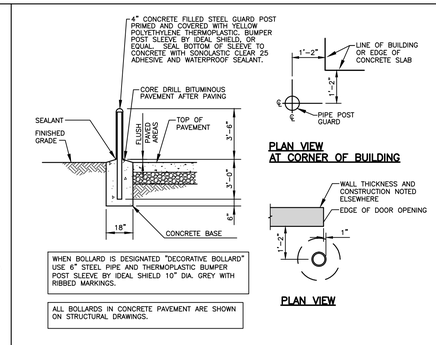
NOTES:
1. ALL GRATES SHALL BE BICYCLE SAFE.
2. THE PERFORATED RISER SHALL BE CUT DOWN TO THE ELEVATION OF THE BASE COURSE PAVEMENT AT THE TIME OF BASE COURSE PAVING. THE TOP 6" OF THE PIPE SHALL THEN BE PLUGGED WITH CEMENT PRIOR TO TOP COURSE PAVING.

C1 STORM SEWER CATCH BASIN
NTS | A1/C400



NOTES:
1. THE 5236 GRATE REQUIRES A MINIMUM 5' DIAMETER MANHOLE SECTION.
2. USE THIS GRATE IN PARKING LOT AREAS.

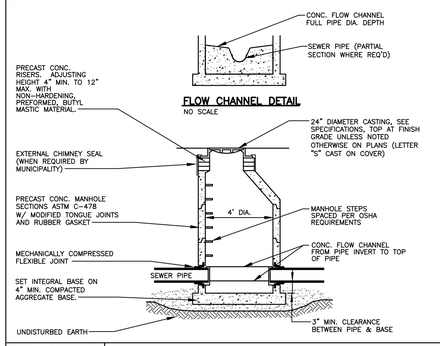
C3 FRAME AND GRATE
NTS | A1/C400



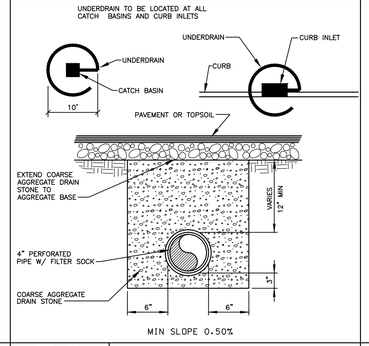
WHEN BOLLARD IS DESIGNATED "DECORATIVE BOLLARD" USE 6" STEEL PIPE AND THERMOPLASTIC BUMPER POST SLEEVE BY IDEAL SHIELD 10" DIA. GREY WITH RIBBED MARKINGS.

ALL BOLLARDS IN CONCRETE PAVEMENT ARE SHOWN ON STRUCTURAL DRAWINGS.

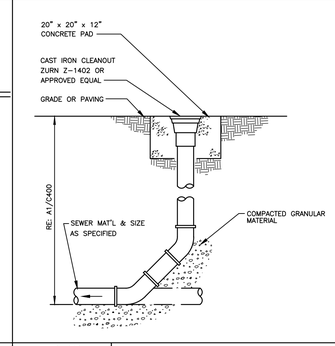
C5 GUARD POST DETAIL
NTS | A1/C200



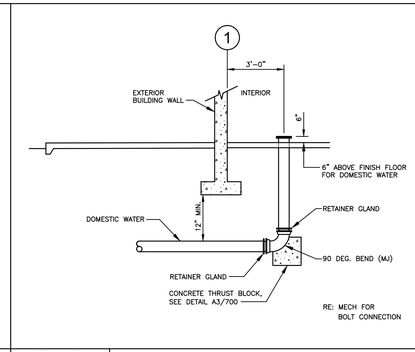
B1 TYP SANITARY MANHOLE (PRIVATE SANITARY SEWER)
NTS | A1/C400



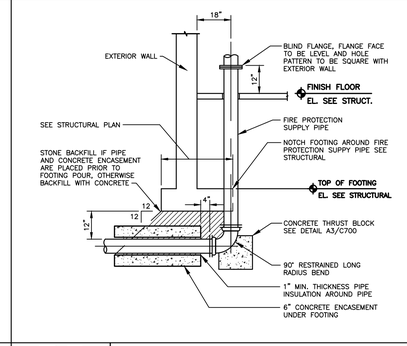
B2 PERFORATED UNDERDRAIN
NTS | A1/C400



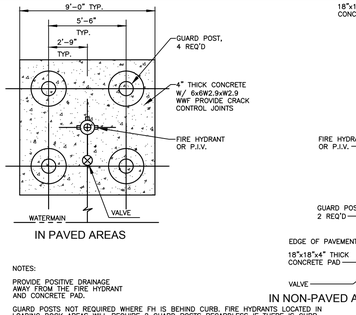
B3 TYP. CLEANOUT DETAIL
NTS | A1/C400

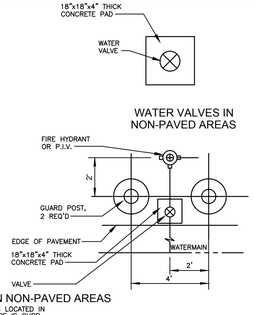


B4 TYP. DOMESTIC WATER RISER
NTS | A1/C400



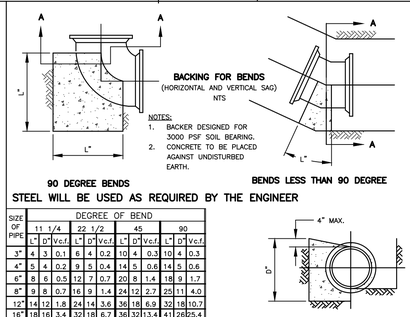
B5 FIRE RISER DETAIL
NTS | A1/C400





NOTES:
PROVIDE POSITIVE DRAINAGE AWAY FROM THE FIRE HYDRANT AND CONCRETE PAD.
GUARD POSTS NOT REQUIRED WHERE FH IS BEHIND CURB. FIRE HYDRANTS LOCATED IN LOADING DOCK AREAS WILL REQUIRE 2 GUARD POSTS REGARDLESS IF THERE IS CURB.

A1 FH AND WATER VALVE LAYOUT
NTS | A1/C400



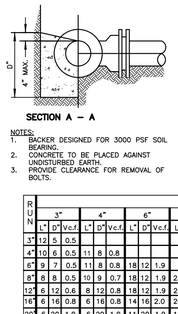
NOTES:
1. BACKER DESIGNED FOR 3000 PSF SOIL BEARING.
2. CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH.

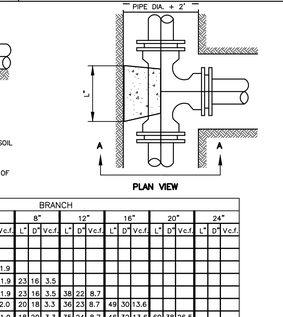
90 DEGREE BENDS — BENDS LESS THAN 90 DEGREE

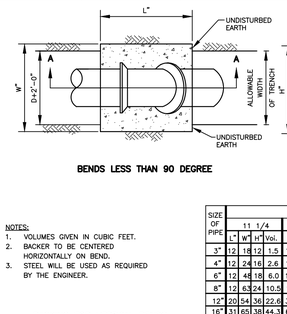
STEEL WILL BE USED AS REQUIRED BY THE ENGINEER

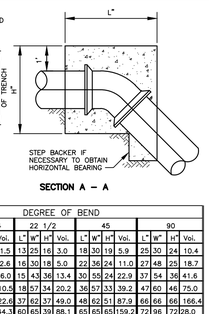
SIZE OF PIPE	DEGREE OF BEND 11 1/4			22 1/2			45			90		
	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.
3"	4	3	0.1	6	4	0.2	10	4	0.3	10	4	0.3
4"	5	4	0.2	9	5	0.4	14	5	0.6	14	5	0.6
6"	8	6	0.5	12	7	0.7	20	8	1.4	18	9	1.7
8"	9	8	0.7	16	9	1.4	24	10	2.7	25	11	4.0
12"	14	12	1.8	24	14	3.6	36	18	6.9	32	18	10.7
16"	18	16	3.4	32	18	6.7	36	32	13.4	41	26	25.4
20"	25	20	6.4	30	30	11.5	49	36	20.5	50	32	46.5
24"	27	24	9.0	39	34	18.4	60	42	35.0	58	40	77.7

A3 THRUST BLOCK DETAIL - SEE SPECIFICATIONS. USE ONLY WHEN REQUIRED BY MUNICIPALITY
NTS | A1/C400









R U N / BRANCH	3"			4"			6"			8"			12"			16"			20"			24"		
	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.	L"	D"	Vc.f.
3"	12	5	0.5																					
4"	10	6	0.5	11	8	0.8																		
6"	9	7	0.5	11	8	0.8	18	12	1.9															
8"	8	8	0.5	10	9	0.7	18	12	1.9	23	16	3.5												
12"	6	12	0.6	8	12	0.8	18	12	1.9	23	16	3.5	38	22	8.7									
16"	6	16	0.8	6	16	0.8	14	16	2.0	20	18	3.3	36	23	8.7	49	30	13.6						
20"	6	20	1.0	6	20	1.0	11	20	1.9	18	20	3.3	36	24	8.7	46	32	13.6	60	38	26.5			
24"	6	24	1.2	6	24	1.2	9	24	1.9	15	24	3.3	30	28	8.7	42	36	14.0	54	42	26.3	68	48	45.4

STEEL WILL BE USED AS REQUIRED BY THE ENGINEER

NOTES:
1. VOLUMES GIVEN IN CUBIC FEET.
2. BACKER TO BE CENTERED HORIZONTALLY ON BEND.
3. STEEL WILL BE USED AS REQUIRED BY THE ENGINEER.

BACKING FOR VERTICAL BENDS
(OVER BENDS ONLY)
NTS

SIZE OF PIPE	DEGREE OF BEND 11 1/4				22 1/2				45				90			
	L"	W"	H"	Vol.	L"	W"	H"	Vol.	L"	W"	H"	Vol.	L"	W"	H"	Vol.
3"	12	18	12	1.5	13	25	16	3.0	18	30	19	5.9	25	30	24	10.4
4"	12	24	16	2.6	16	30	18	5.0	22	36	24	11.0	27	48	25	18.7
6"	12	48	18	6.0	15	43	36	13.4	30	55	24	22.9	37	54	36	41.6
8"	12	63	24	10.5	18	57	34	20.2	36	57	33	39.3	47	60	46	75.0
12"	20	54	36	22.6	37	62	37	49.0	48	62	51	87.9	66	66	66	166.4
16"	31	65	38	44.3	60	65	39	88.1	65	65	65	159.2	72	96	72	28.0
20"	45	70	40	72.8	56	70	60	136.2	72	76	78	247.0	86	108	84	451.8
24"	41	72	54	92.3	67	74	69	198.0	88	84	84	359.1	96	120	96	640.0

JONATHAN R. SHEDIER
REGISTERED
No. 10707500
STATE OF INDIANA
PROFESSIONAL ENGINEER
5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
CONSTRUCTION PLANS
2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

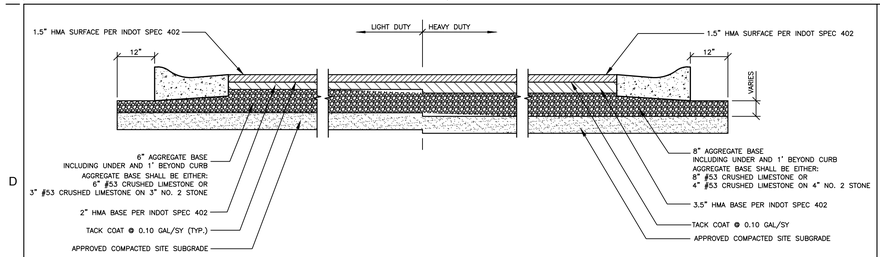
CONSTRUCTION MANAGED BY:

DESIGNED BY:
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

DETAILS

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C700

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485

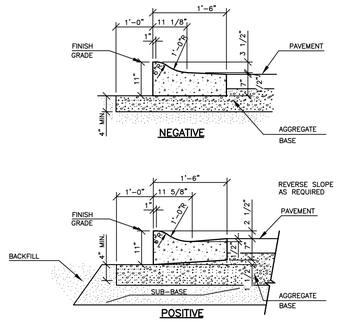


NOTES:

1. ALL MATERIALS SHALL CONFORM INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
2. THE SURFACE FOR BOTH TYPES CAN BE COMPLETED AT THE SAME TIME. ALL PAVEMENT JOINTS SHOULD BE SQUARE WITHOUT FEATHERING
3. CONTRACTOR SHALL SUBMIT A MIX DESIGN FOR ENGINEERING REVIEW AND RECEIVE APPROVAL PRIOR TO PAVING
4. SEE SPECIFICATIONS FOR MODIFICATIONS TO STANDARD BITUMINOUS D.O.T. MIXES

D1 LIGHT DUTY/HEAVY DUTY PAVEMENT SECTION

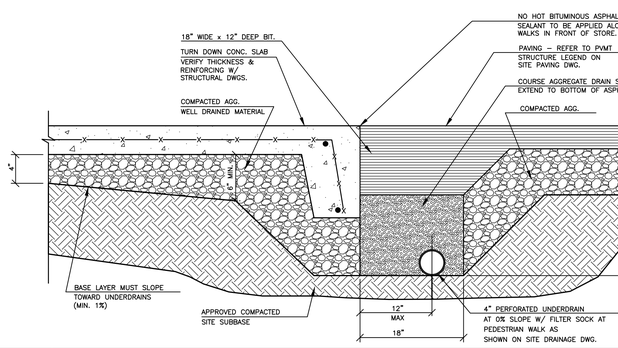
NTS XXX



★ FOR USE WITHIN THE MEIJER PROPERTY LIMITS.

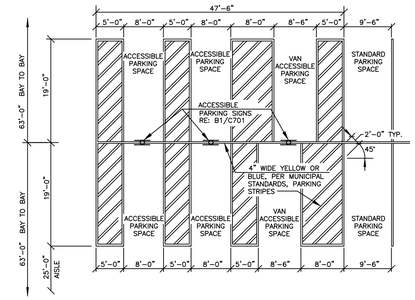
D3 CURB & GUTTER DETAIL

NTS XXX



D4 UNDERDRAIN AT CONCRETE SLAB

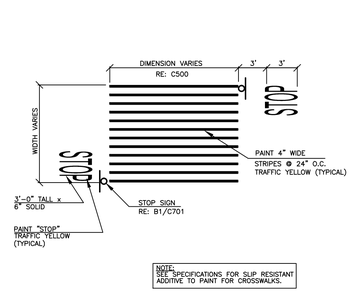
NTS XXX



LAYOUT FOR STANDARD & ACCESSIBLE PARKING SPACES

C1 STD & ACCESSIBLE PARK SPACES

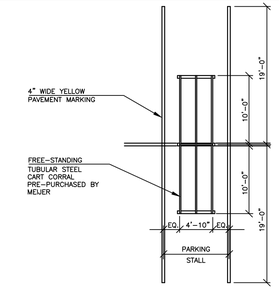
NTS XXX



NOTE: SEE SPECIFICATIONS FOR SLIP RESISTANT ADDITIVE TO PAINT FOR CROSSWALKS.

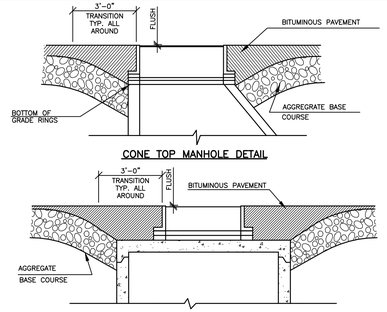
C2 PED CROSSWALK STRIPING PLAN

NTS XXX



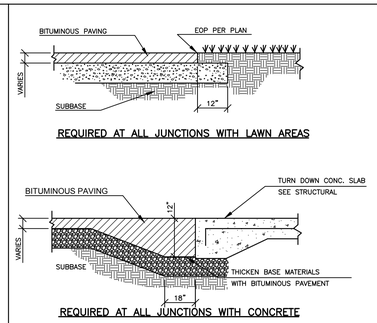
C3 CART CORRAL PLAN

NTS XXX



C4 TYP PAVT AT MH AND CB

NTS XXX



C5 BITUMINOUS PVMT EDGE DETAILS

NTS XXX

ALL SIGN MATERIAL:
ALLSTATE SIGN AND PLAQUE CORP., 70 BURT DRIVE DEER PARK, N.Y. 11729, 1-800-645-6330, OR APPROVED EQUAL

STOP SIGNS:
NO. S-NYR2 REFLECTIVE 30", .080" ALUMINUM WITH SCOTCHLITE, OR APPROVED EQUAL

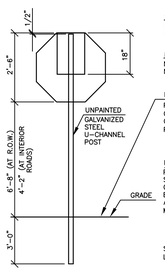
NO PARKING - FIRE LANE SIGNS:
NO. W-GR-S3, 12" X 18" SERIES 100, NON-REFLECTIVE, OR APPROVED EQUAL

INSTALLATION IN LAWN AREAS:
POSTS ARE TO BE LOCATED 5'-0" FROM EDGE OF CURB. BURY POST 3'-0" DEEP AND AS SHOWN ON TRAFFIC CONTROL PLAN. MOUNT SIGN TO POST PER MANUFACTURER'S RECOMMENDATIONS.

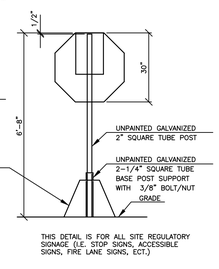
INSTALLATION IN PAVED AREAS:
POSTS ARE TO BE LOCATED AS SHOWN ON SIGNAGE PLAN AND SET IN PRECAST REINFORCED CONCRETE SIGN POST BASE AS MANUFACTURED BY BUSH CONCRETE PRODUCTS, MUSKEGON, MI., OR APPROVED EQUAL. MOUNT SIGN TO POST PER MANUFACTURER'S RECOMMENDATIONS.

STOP SIGNS AT DRIVE ENTRANCES SHALL BE LOCATED 12'-0" FROM R.O.W. LINE.

NOTE: SIGN, POLE AND BASE FURNISHED AND INSTALLED BY CONTRACTOR.



LAWN AREAS



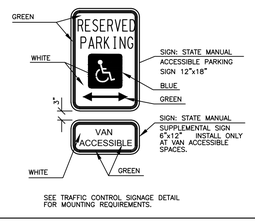
PAVED AREAS

THIS DETAIL IS FOR ALL SITE REGULATORY SIGNAGE (I.E. STOP SIGNS, ACCESSIBLE SIGNS, FIRE LANE SIGNS, ECT.)

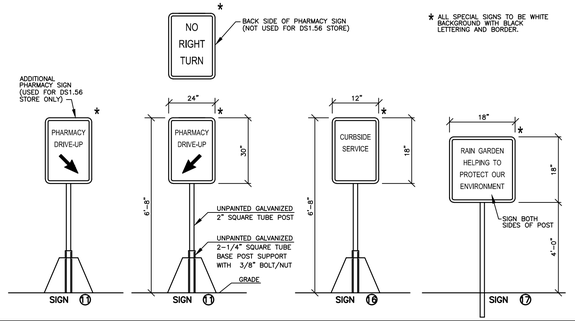
WRONG WAY SIGNS:
NO. S-NYR53A 30"x18".
UV SCREEN PRINTED ALUMINUM

ACCESSIBLE PARKING SIGNS:
NO. S-HA7-8, REFLECTIVE 0.080: ALUMINUM WITH SCOTCHLITE, OR APPROVED EQUAL.

SUPPLEMENTAL VAN ACCESSIBLE SIGNS:
NO. S-PR127, REFLECTIVE 0.080: ALUMINUM WITH SCOTCHLITE, OR APPROVED EQUAL.



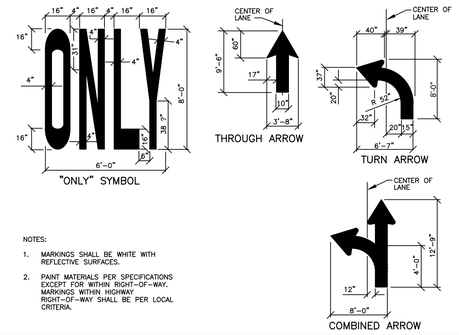
SEE TRAFFIC CONTROL SIGNAGE DETAIL FOR MOUNTING REQUIREMENTS.



★ ALL SPECIAL SIGNS TO BE WHITE BACKGROUND WITH BLACK LETTERING AND BORDER.

B1 TRAFFIC CONTROL SIGNAGE

NTS XXX

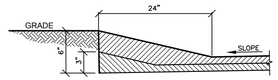


NOTES:

1. MARKINGS SHALL BE WHITE WITH REFLECTIVE SURFACES.
2. PAINT MATERIALS PER SPECIFICATIONS EXCEPT FOR WITHIN RIGHT-OF-WAY. MARKINGS WITHIN HIGHWAY RIGHT-OF-WAY SHALL BE PER LOCAL CRITERIA.

B5 PAVEMENT MARKING DETAILS

NTS XXX



A5 BITUMINOUS ROLLED CURB

NTS XXX

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
CONSTRUCTION PLANS

2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

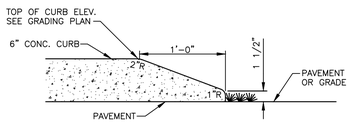
CONSTRUCTION MANAGED BY:

DESIGNED BY:
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

DETAILS

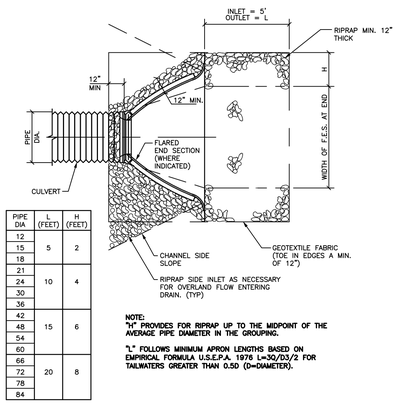
DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C701

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



D5 CURB END TAPER

NTS | A1/C200



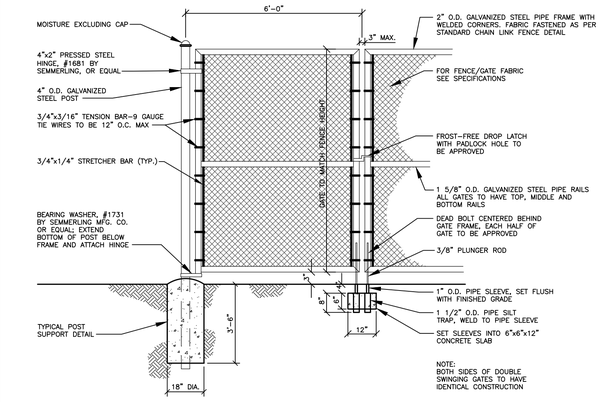
PIPE DIA	L (FEET)	H (FEET)
12	5	2
15		
18		
21	10	4
24		
30		
36		
42	15	6
48		
54		
60		
66	20	8
72		
78		
84		

NOTE:
"H" PROVIDES FOR RIPRAP UP TO THE MIDPOINT OF THE AVERAGE PIPE DIAMETER IN THE GROUPING.

"L" FOLLOWS MINIMUM APRON LENGTHS BASED ON EMPIRICAL FORMULA U.S.E.P.A. 1976 L=3Q/D3/2 FOR TAILWATERS GREATER THAN 0.50 (D=DIAMETER).

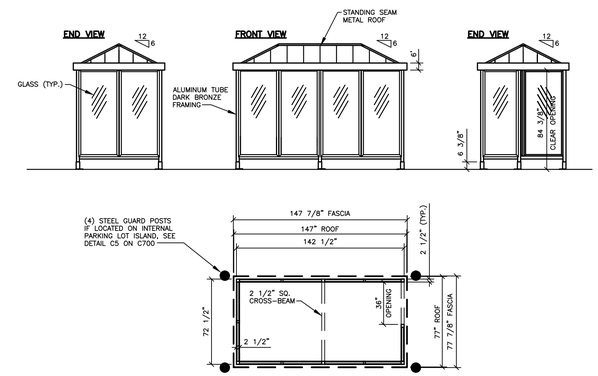
B5 RIPRAP END TREATMENT

NTS | A1/C400



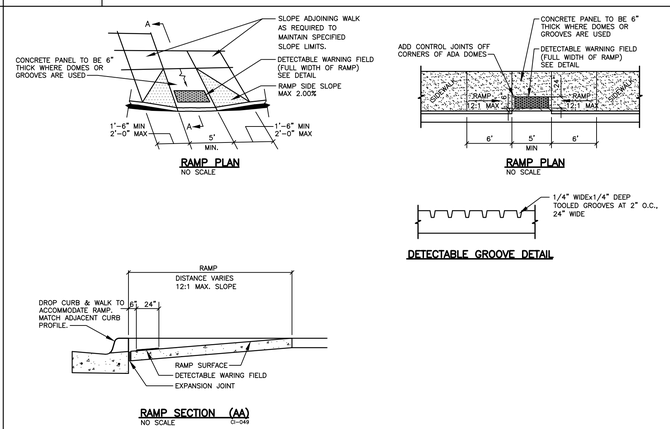
D2 DOUBLE GATE CHAIN LINK FENCE DETAIL

NTS



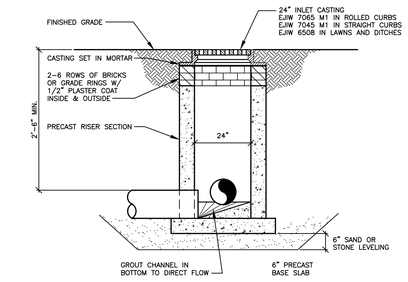
B2 SMOKING SHELTER / BUS SHELTER

NTS



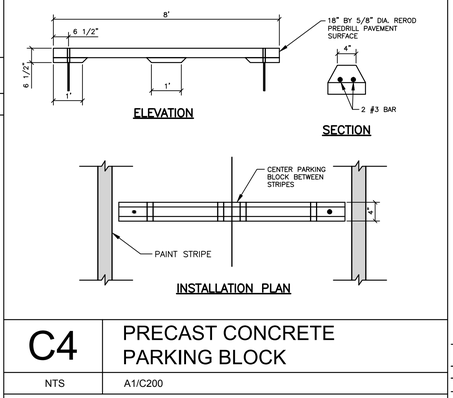
A2 SIDEWALK RAMP DETAILS

NTS



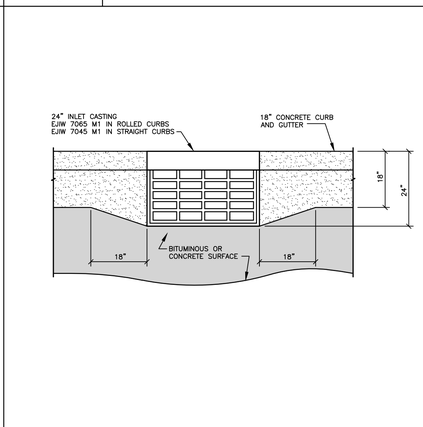
D4 24" DIA. CATCH BASIN

NTS



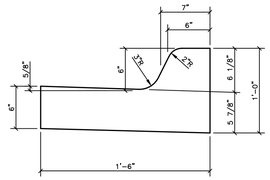
C4 PRECAST CONCRETE PARKING BLOCK

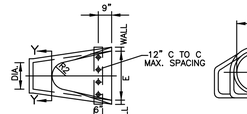
NTS | A1/C200

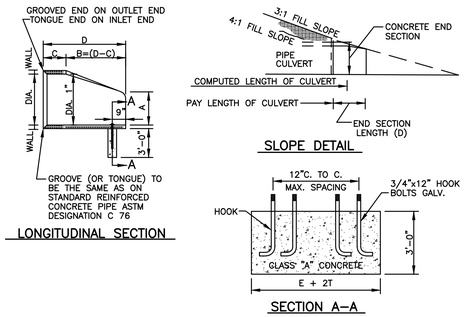


B4 STRAIGHT CURB

NTS







DIA.	WALL	WT. SEC.	A	B	C	D	E	R-1	R-2	SKIRT
36	4	4100	15	63	34 3/4	97 3/4	72	24 1/16	20	5 1/2
54	5 1/2	8040	27	65	35	100	90	32 7/8	24	6 1/4

NOTES:

CONCRETE IN THESE SECTIONS SHALL BE THE SAME GRADE AND STRENGTH AS SPECIFIED FOR REINFORCED CONCRETE PIPE, A.S.T.M. DESIGNATION C-76 CLASS II (AS SET OUT IN STANDARD SPECIFICATIONS).

REINFORCEMENT IN THE "C" PORTION SHALL BE THE SAME AS SPECIFIED FOR THE REINFORCED CONCRETE, A.S.T.M. DESIGNATION C-76 CLASS II FOR THE SIZE OF CONNECTING PIPE.

REINFORCEMENT IN THE "B" PORTION SHALL HAVE A CROSS SECTIONAL AREA EQUAL TO THAT OF ONE LAYER OF STEEL IN THE "C" PORTION.

THE END OF THE PIPE CULVERT SHALL BE PLACED IN THE CONCRETE END SECTION SO THAT THE FLOW LINES ARE FLUSH. THE JOINT SHALL BE COMPLETELY FILLED WITH MORTAR.

IN 3:1 OR 4:1 FILL SLOPE, CHANGE TO THE SLOPE OF THE END SECTION IN A SMOOTH, PLEASING TRANSITION APPROXIMATELY 10'-0 IN LENGTH.

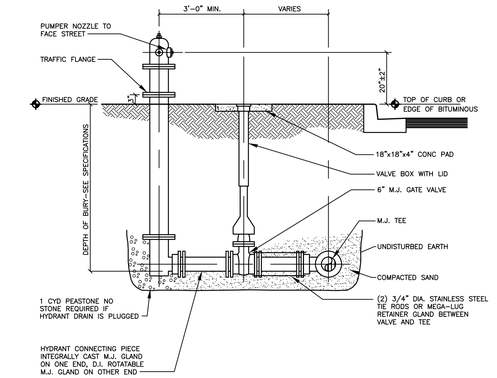
VARIATIONS IN DIMENSIONS — THE THICKNESS OF THE CONCRETE, THE POSITION OF STEEL, AND THE INTERNAL DIAMETER OF THE PIPE SHALL CONFORM WITH THE VARIATIONS IN DIMENSIONS AS PROVIDED IN THE SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, A.S.T.M. DESIGNATION C-76.

CONCRETE PIPE TOE ANCHORS SHALL BE REQUIRED ON ALL CONCRETE PIPE END SECTIONS.

—WOOLPERT DETAIL—

A5 PRECAST CONCRETE END SECTION

NTS | A1/C400



A5 HYDRANT ASSEMBLY DETAIL

NTS | A1/C400

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
CONSTRUCTION PLANS

2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

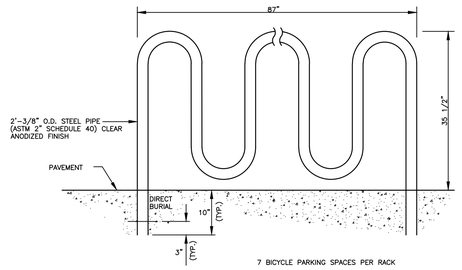
DESIGNED BY:

WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

DETAILS

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C702

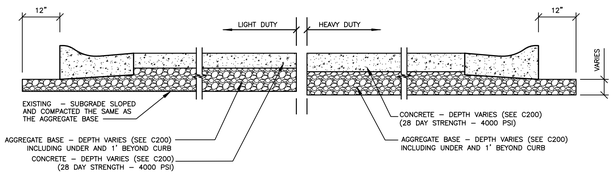
CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



7 BICYCLE PARKING SPACES PER RACK

D1 BICYCLE RACK

NTS

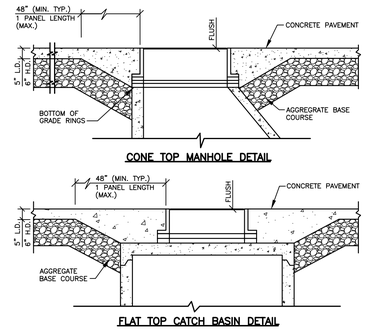


NOTES:

1) ALL MATERIALS SHALL CONFORM TO CURRENT INDOT STANDARDS AND SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2) REFER TO SHEET C200 FOR ALL CONCRETE AND BASE THICKNESSES AND REINFORCEMENT REQUIREMENTS FOR ALL AREAS OF CONCRETE. REFER TO STRUCTURAL PLANS FOR ALL STRUCTURAL CONCRETE PER C200.
2) THE POURING FOR BOTH TYPES CAN BE COMPLETED AT THE SAME TIME, ALL PAVEMENT JOINTS SHOULD BE IN CONFORMANCE WITH DETAILS PROVIDED ON THIS SHEET.
3) SEE SPECIFICATIONS FOR MODIFICATIONS TO STANDARD CONCRETE D.O.T. MIXES.

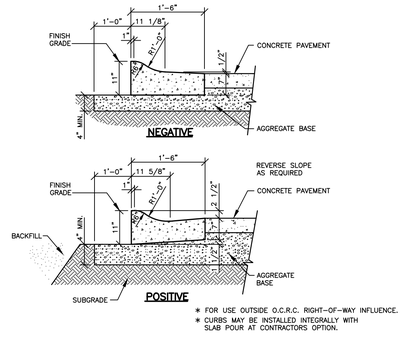
D2 LIGHT DUTY/HEAVY DUTY CONCRETE PAVEMENT SECTION

NTS



D4 (TYP.) PAVEMENT AT MH AND CB

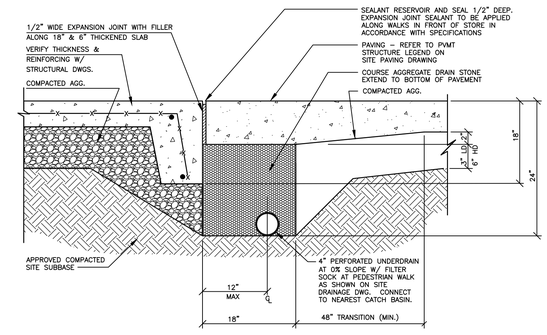
NTS



* FOR USE OUTSIDE O.C.R.C. RIGHT-OF-WAY INFLUENCE.
* CURBS MAY BE INSTALLED INTEGRALLY WITH SLAB POUR AT CONTRACTORS OPTION.

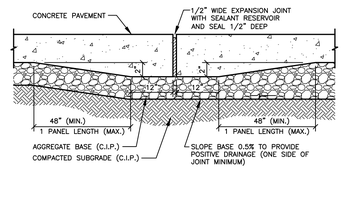
D5 CURB & GUTTER DETAIL

NTS



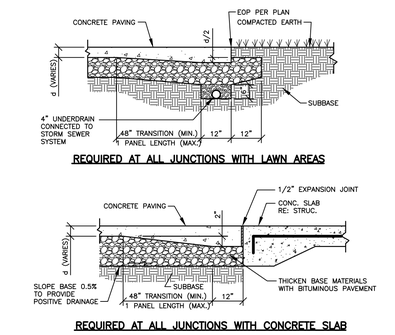
C2 UNDERDRAIN AT BUILDING FRONT SIDE WALK

NTS



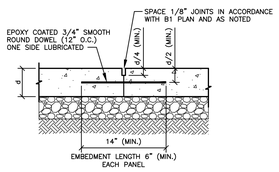
C4 EXPANSION JOINT

NTS



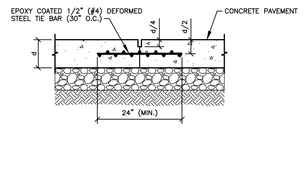
C5 CONCRETE PAVEMENT EDGE DETAIL

NTS



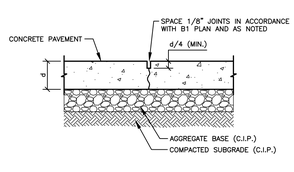
B1 DOWELED BUTT JOINT

NTS



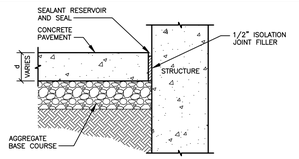
B2 TIED BUTT JOINT

NTS



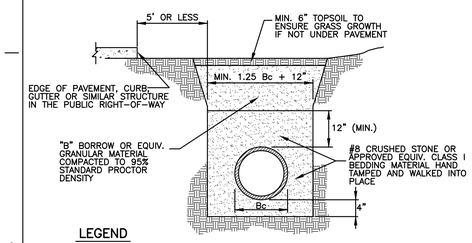
B4 CONTRACTION JOINT (UNDOWELED)

NTS

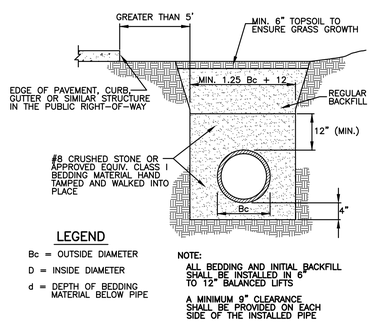


B5 CONCRETE PAVEMENT EDGE

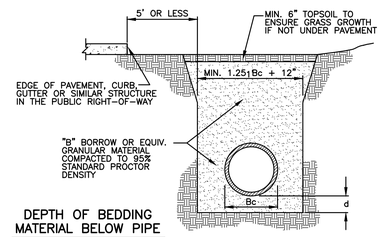
NTS



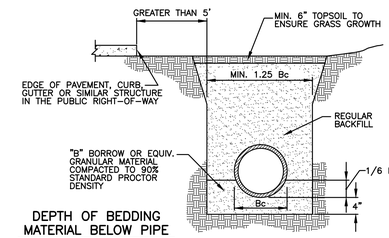
PLASTIC PIPE (PVC & HDPE) TRENCH DETAIL
(WITHIN 5' FROM EDGE OF PAVEMENT)



PLASTIC PIPE (PVC & HDPE) TRENCH DETAIL
(GREATER THAN 5' FROM EDGE OF PAVEMENT)



REINFORCED CONCRETE PIPE (RCP) TRENCH DETAIL
(WITHIN 5' FROM EDGE OF PAVEMENT)



REINFORCED CONCRETE PIPE (RCP) TRENCH DETAIL
(GREATER THAN 5' FROM EDGE OF PAVEMENT)

A1 PIPE TRENCH TYP

NTS

JONATHAN R. SHEIDLER
REGISTERED
No. 10707500
STATE OF INDIANA
PROFESSIONAL ENGINEER
5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
CONSTRUCTION PLANS

2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

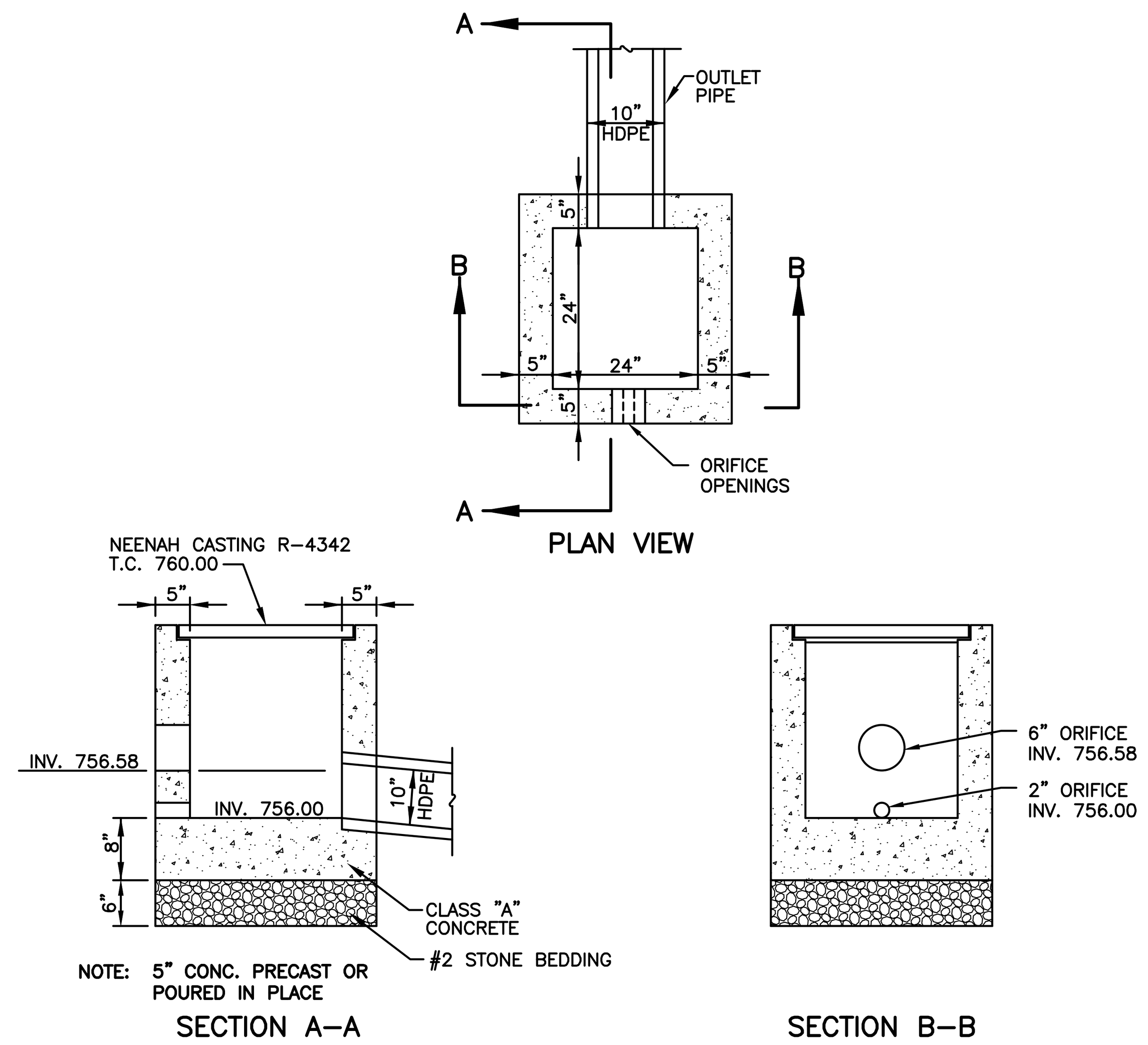
CONSTRUCTION MANAGED BY:

DESIGNED BY:
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

CONCRETE PAVING DETAILS

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C703

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485

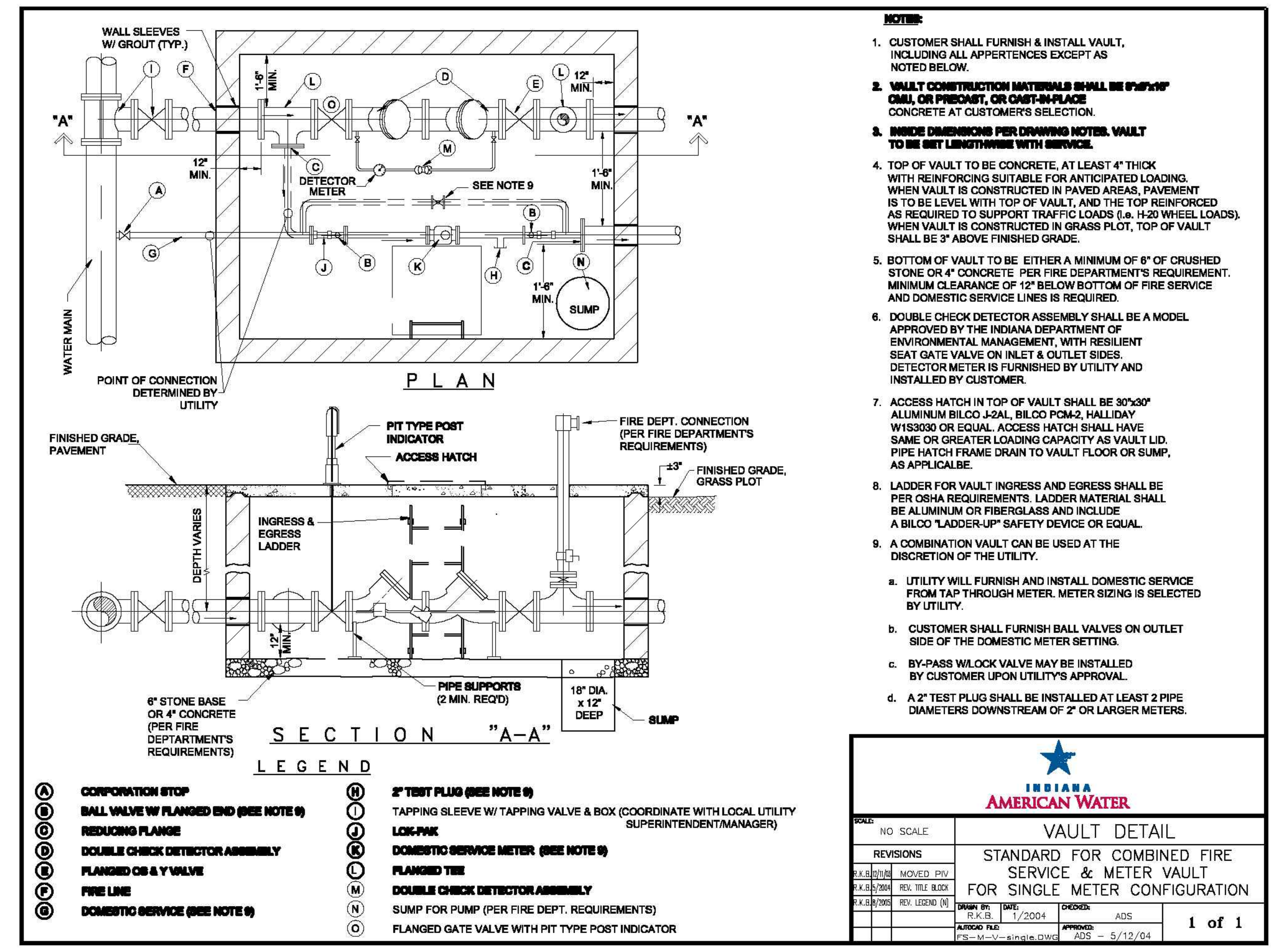


A
OUTLET PIPE
10" HDPE
5"
24"
B
ORIFICE OPENINGS
PLAN VIEW
NEENAH CASTING R-4342
T.C. 760.00
INV. 756.58
INV. 756.00
10" HDPE
8"
6"
CLASS "A" CONCRETE
#2 STONE BEDDING
NOTE: 5" CONC. PRECAST OR POURED IN PLACE
SECTION A-A
6" ORIFICE
INV. 756.58
2" ORIFICE
INV. 756.00
SECTION B-B

—WOOLPERT DETAIL—

C1 WET POND OUTLET STRUCTURE

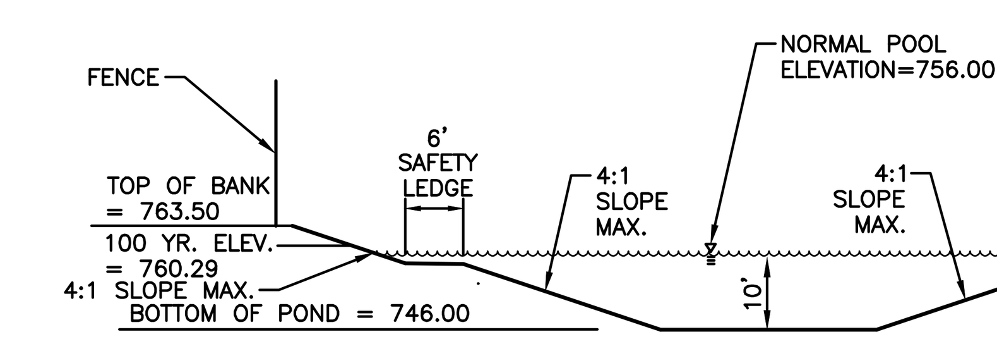
NTS | A1/C400



WALL SLEEVES W/ GROUT (TYP.)
"A"
12" MIN.
1'-6" MIN.
DETECTOR METER
SEE NOTE 9
SUMP
WATER MAIN
POINT OF CONNECTION DETERMINED BY UTILITY
PLAN
FINISHED GRADE, PAVEMENT
PIT TYPE POST INDICATOR
ACCESS HATCH
FIRE DEPT. CONNECTION (PER FIRE DEPARTMENT'S REQUIREMENTS)
±3" FINISHED GRADE, GRASS PLOT
DEPTH VARIES
INGRESS & EGRESS LADDER
PIPE SUPPORTS (2 MIN. REQ'D)
6" STONE BASE OR 4" CONCRETE (PER FIRE DEPTARTMENT'S REQUIREMENTS)
18" DIA. x 12" DEEP
SUMP
SECTION "A-A"
LEGEND
A CORPORATION STOP
B BALL VALVE W/ FLANGED END (SEE NOTE 9)
C REDUCING FLANGE
D DOUBLE CHECK DETECTOR ASSEMBLY
E FLANGED OS & Y VALVE
F FIRE LINE
G DOMESTIC SERVICE (SEE NOTE 9)
H 2" TEST PLUG (SEE NOTE 9)
I TAPPING SLEEVE W/ TAPPING VALVE & BOX (COORDINATE WITH LOCAL UTILITY SUPERINTENDENT/MANAGER)
J LOK-PAK
K DOMESTIC SERVICE METER (SEE NOTE 9)
L FLANGED TEE
M DOUBLE CHECK DETECTOR ASSEMBLY
N SUMP FOR PUMP (PER FIRE DEPT. REQUIREMENTS)
O FLANGED GATE VALVE WITH PIT TYPE POST INDICATOR
NOTES:
1. CUSTOMER SHALL FURNISH & INSTALL VAULT, INCLUDING ALL APPERTENCES EXCEPT AS NOTED BELOW.
2. VAULT CONSTRUCTION MATERIALS SHALL BE 8"x8"x16" CMU, OR PRECAST, OR CAST-IN-PLACE CONCRETE AT CUSTOMER'S SELECTION.
3. INSIDE DIMENSIONS PER DRAWING NOTES. VAULT TO BE SET LENGTHWISE WITH SERVICE.
4. TOP OF VAULT TO BE CONCRETE, AT LEAST 4" THICK WITH REINFORCING SUITABLE FOR ANTICIPATED LOADING. WHEN VAULT IS CONSTRUCTED IN PAVED AREAS, PAVEMENT IS TO BE LEVEL WITH TOP OF VAULT, AND THE TOP REINFORCED AS REQUIRED TO SUPPORT TRAFFIC LOADS (i.e. H-20 WHEEL LOADS). WHEN VAULT IS CONSTRUCTED IN GRASS PLOT, TOP OF VAULT SHALL BE 3" ABOVE FINISHED GRADE.
5. BOTTOM OF VAULT TO BE EITHER A MINIMUM OF 6" OF CRUSHED STONE OR 4" CONCRETE PER FIRE DEPARTMENT'S REQUIREMENT. MINIMUM CLEARANCE OF 12" BELOW BOTTOM OF FIRE SERVICE AND DOMESTIC SERVICE LINES IS REQUIRED.
6. DOUBLE CHECK DETECTOR ASSEMBLY SHALL BE A MODEL APPROVED BY THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, WITH RESILIENT SEAT GATE VALVE ON INLET & OUTLET SIDES. DETECTOR METER IS FURNISHED BY UTILITY AND INSTALLED BY CUSTOMER.
7. ACCESS HATCH IN TOP OF VAULT SHALL BE 30"x30" ALUMINUM BILCO J-2AL, BILCO PCM-2, HALLIDAY W1S3030 OR EQUAL. ACCESS HATCH SHALL HAVE SAME OR GREATER LOADING CAPACITY AS VAULT LID. PIPE HATCH FRAME DRAIN TO VAULT FLOOR OR SUMP, AS APPLICALBE.
8. LADDER FOR VAULT INGRESS AND EGRESS SHALL BE PER OSHA REQUIREMENTS. LADDER MATERIAL SHALL BE ALUMINUM OR FIBERGLASS AND INCLUDE A BILCO "LADDER-UP" SAFETY DEVICE OR EQUAL.
9. A COMBINATION VAULT CAN BE USED AT THE DISCRETION OF THE UTILITY.
a. UTILITY WILL FURNISH AND INSTALL DOMESTIC SERVICE FROM TAP THROUGH METER. METER SIZING IS SELECTED BY UTILITY.
b. CUSTOMER SHALL FURNISH BALL VALVES ON OUTLET SIDE OF THE DOMESTIC METER SETTING.
c. BY-PASS W/LOCK VALVE MAY BE INSTALLED BY CUSTOMER UPON UTILITY'S APPROVAL.
d. A 2" TEST PLUG SHALL BE INSTALLED AT LEAST 2 PIPE DIAMETERS DOWNSTREAM OF 2" OR LARGER METERS.
INDIANA AMERICAN WATER
NO SCALE
VAULT DETAIL
STANDARD FOR COMBINED FIRE SERVICE & METER VAULT FOR SINGLE METER CONFIGURATION
REVISIONS
MOVED PIV
REV. TITLE BLOCK
REV. LEGEND (N)
DRAWN BY: R.K.B.
DATE: 1/2004
CHECKED: ADS
APPROVED: ADS – 5/12/04
AUTOCAD FILE: FS-M-V-single.DWG
1 of 1

C3 INDIANA-AMERICAN WATER COMPANY VAULT DETAIL

NTS | A1/C400

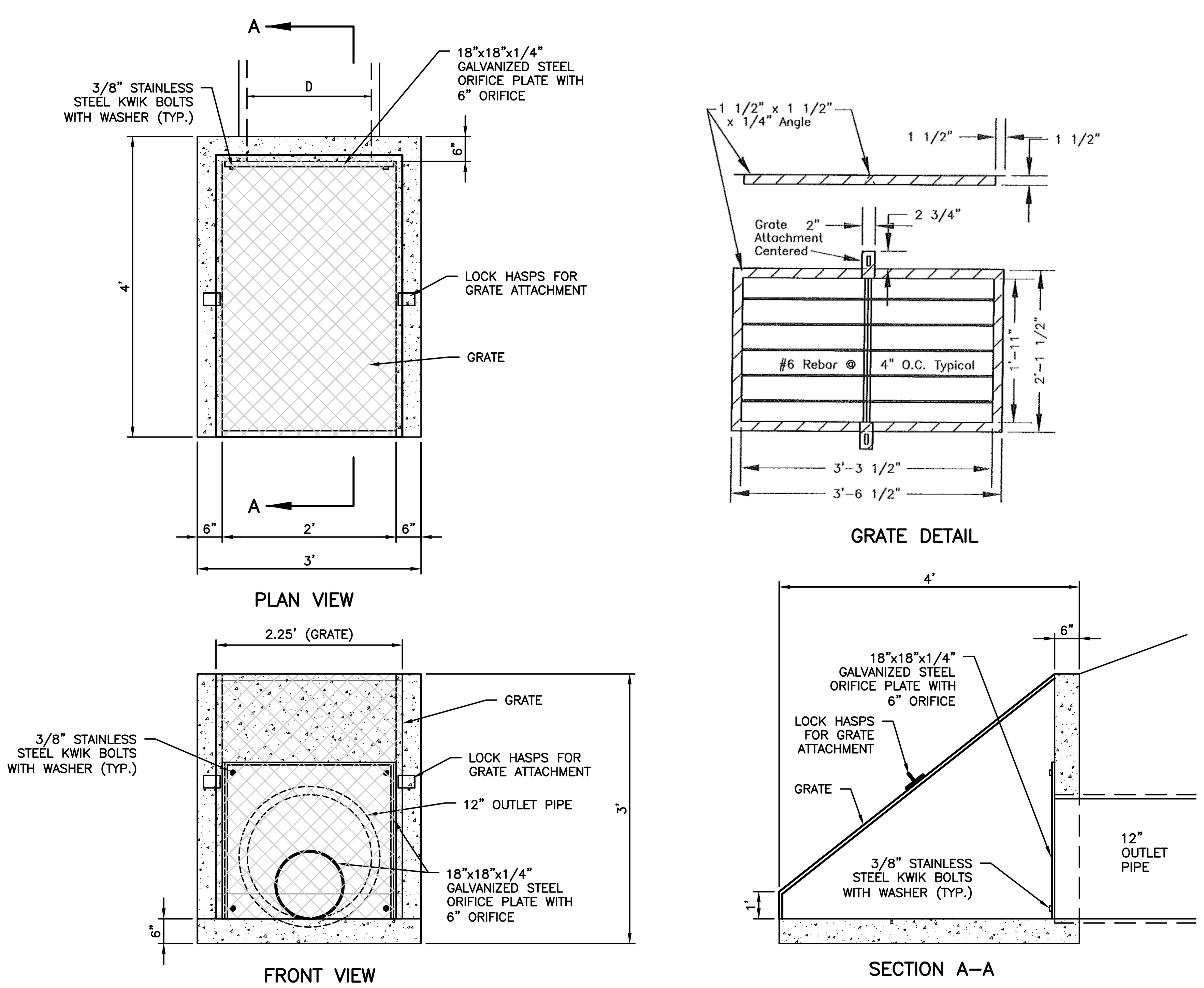


NOTES:
1. STRIPPING OF TOPSOIL PRIOR TO EXCAVATION OR FILLING IS REQUIRED.
2. POND TO BE CONSTRUCTED WITH A 2' THICK CLAY LINER PLACED AND COMPACTED TO 95% STANDARD PROCTOR VALUE IN ≤ 8" LIFTS.

—WOOLPERT DETAIL—

B3 WET POND DETAIL

NTS | A1/C400

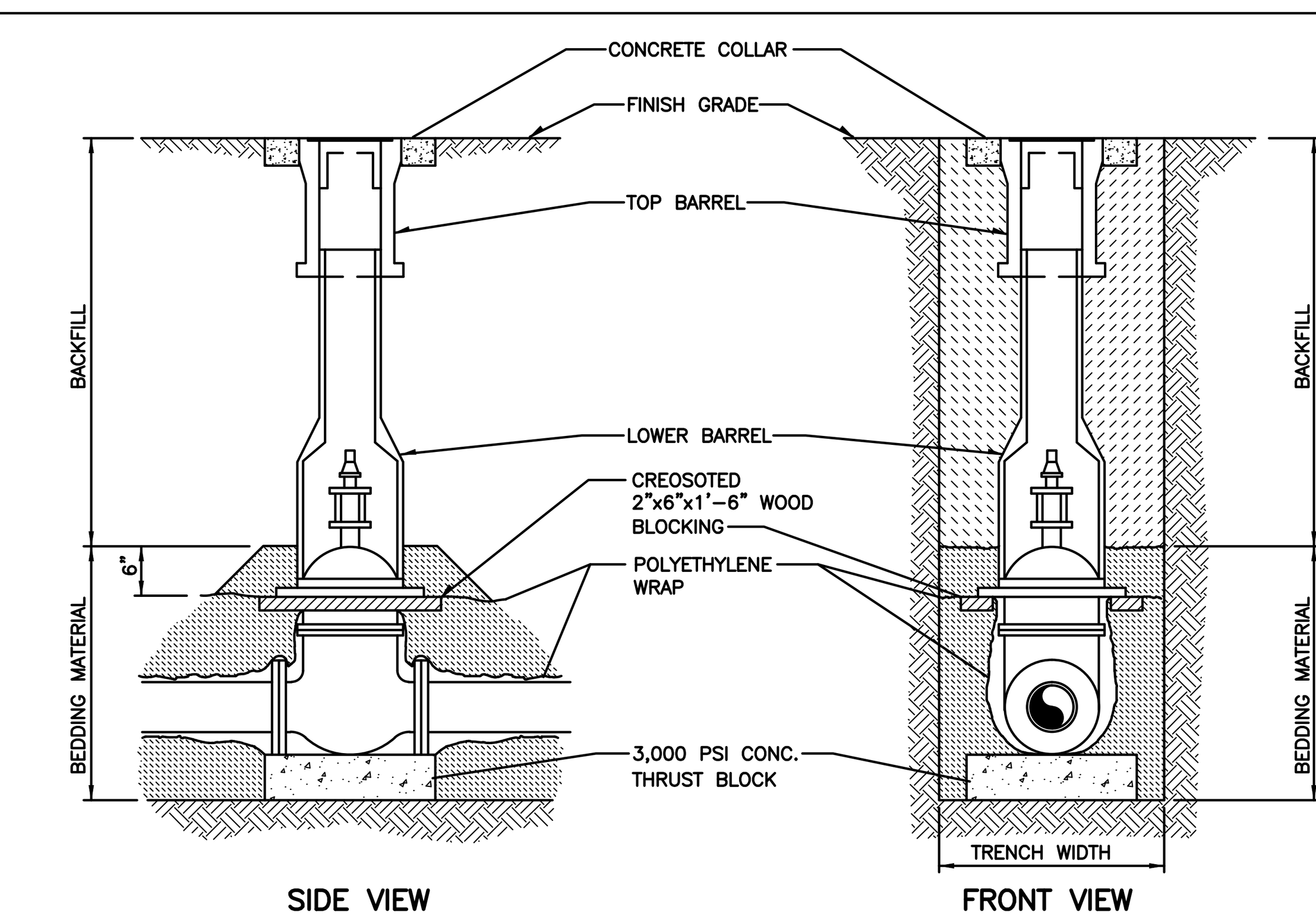


A
3/8" STAINLESS STEEL KWIK BOLTS WITH WASHER (TYP.)
D
18"x18"x1/4" GALVANIZED STEEL ORIFICE PLATE WITH 6" ORIFICE
6"
4'
LOCK HASPS FOR GRATE ATTACHMENT
GRATE
6"
2'
3'
PLAN VIEW
1 1/2" x 1 1/2" x 1/4" Angle
1 1/2"
2 3/4"
Grate 2" Attachment Centered
#6 Rebar @ 4" O.C. Typical
1'-11"
2'-1 1/2"
3'-3 1/2"
3'-6 1/2"
GRATE DETAIL
2.25' (GRATE)
12" OUTLET PIPE
FRONT VIEW
12" OUTLET PIPE
1'
SECTION A-A

—WOOLPERT DETAIL—

A1 DRY POND OUTLET STRUCTURE

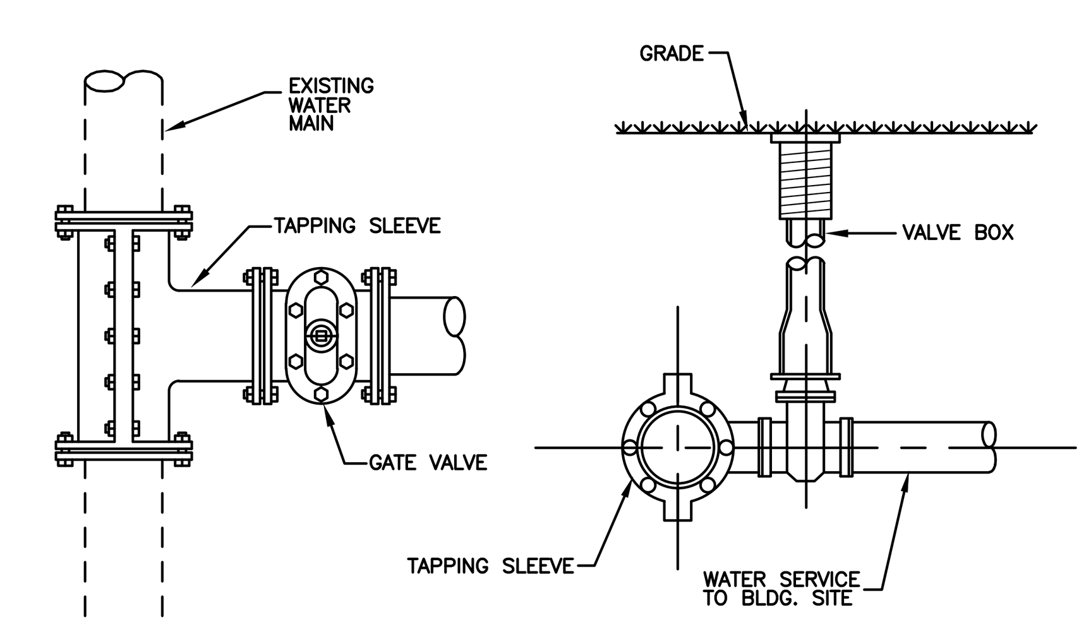
NTS | A1/C400



—WOOLPERT DETAIL—

A3 GATE VALVE BOX SETTING

NTS | A1/C400



—WOOLPERT DETAIL—

A5 WATER MAIN DETAIL

NTS | A1/C400

JONATHAN R. SHEIDLER REGISTERED No. 10707500 STATE OF INDIANA PROFESSIONAL ENGINEER 5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

meijer

STORE FRK
CONSTRUCTION PLANS

2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

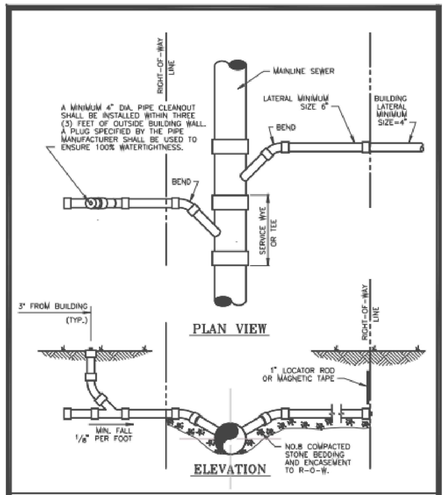
REVISION NO.	REVISION	REV. DATE

CONSTRUCTION MANAGED BY:

DESIGNED BY:
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

DETAILS

DRAWN BY SMB | ISSUE 1 | ISSUE DATE 05/14/15 | SHEET NO. C704
CHECKED BY BJH | MEIJER PROJECT NO. | WOOLPERT PROJECT NO. 74485



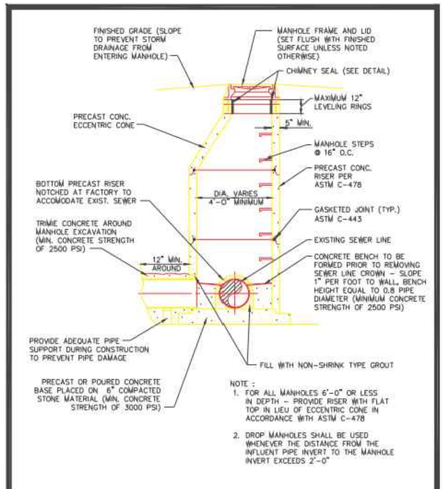
SERVICE CONNECTION FOR SHALLOW SEWERS (LESS THAN 15' DEEP)

REVISION DATE

CITY of FRANKLIN, INDIANA

DPW

FIGURE



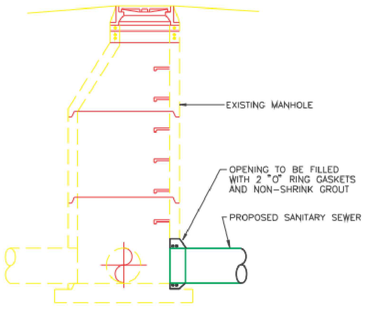
PRECAST MANHOLE ADDED OVER EXISTING SEWER

REVISION DATE

CITY of FRANKLIN, INDIANA

DPW

FIGURE



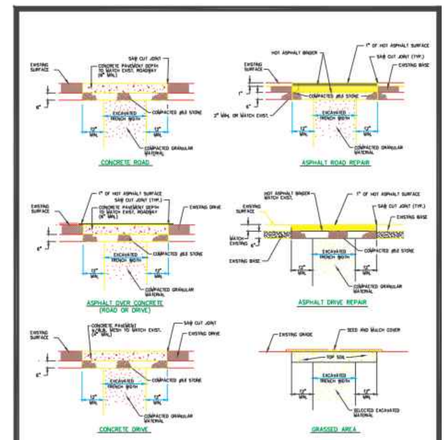
TYPICAL EXISTING MANHOLE ENTRY DETAIL

REVISION DATE

CITY of FRANKLIN, INDIANA

DPW

FIGURE



TYPICAL SURFACE REPLACEMENT DETAILS

REVISION DATE

CITY of FRANKLIN, INDIANA

DPW

FIGURE

JONATHAN R. SHROLLER REGISTERED No. 10707500 STATE OF INDIANA PROFESSIONAL ENGINEER 5/14/15

PERMIT SET - NOT FOR CONSTRUCTION

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STORE FRK
CONSTRUCTION PLANS

2929 WALKER AVENUE
GRAND RAPIDS, MICHIGAN 49544
(616) 453-6711

REVISION NO.	REVISION	REV. DATE

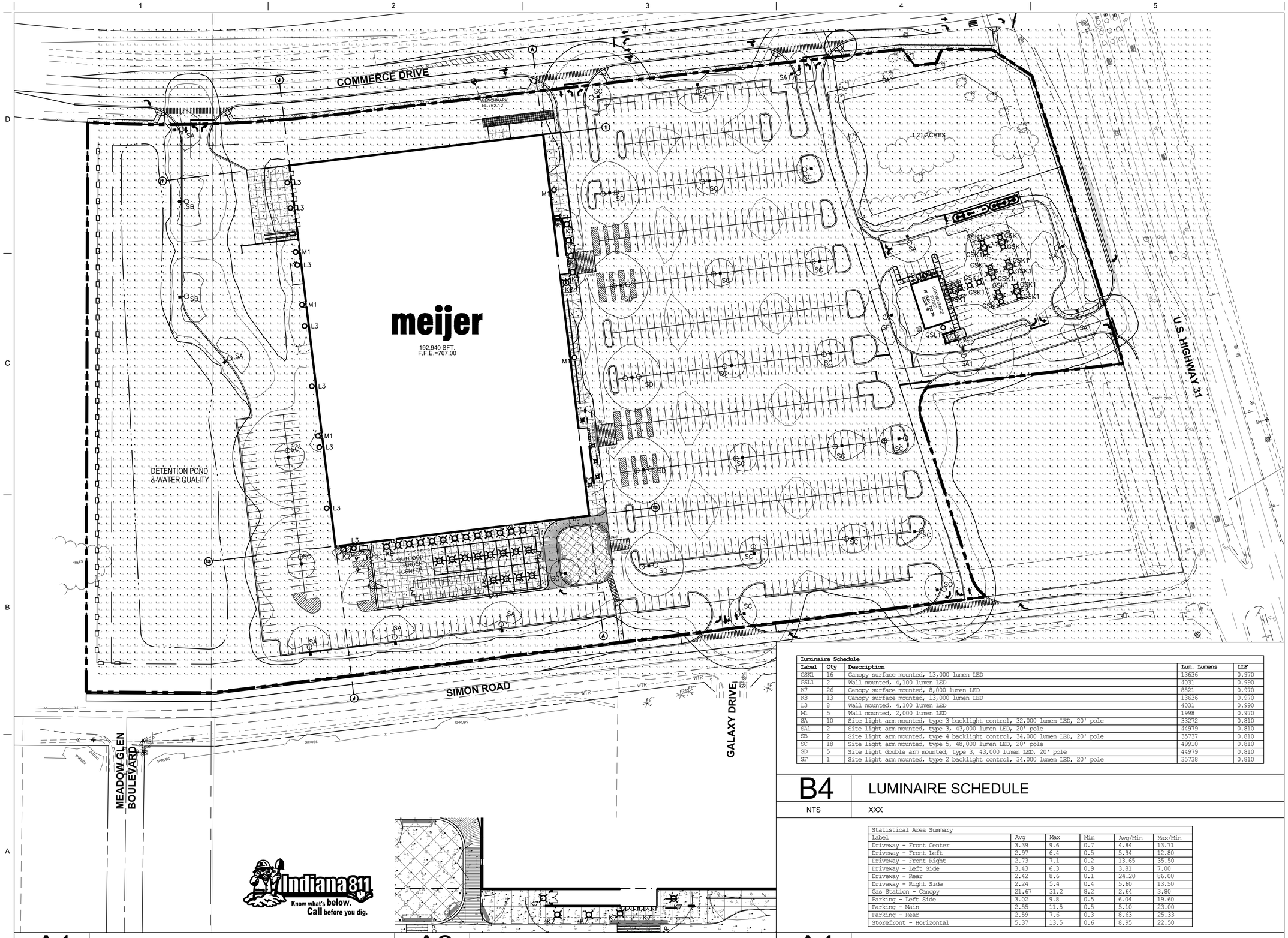
CONSTRUCTION MANAGED BY:

DESIGNED BY:
WOOLPERT
DESIGN | GEOSPATIAL | INFRASTRUCTURE
7635 Interactive Way
Suite 100
Indianapolis, IN 46278
317.299.7500
FAX: 317.291.5805

CITY OF FRANKLIN DETAILS

DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
SMB	1	05/14/15	C705

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



Indiana 811
Know what's below. Call before you dig.

A1	SITE ELECTRICAL PLAN
SCALE: 1" = 60'	

A2	CANOPY PHOTOMETRIC PLAN
SCALE: 1" = 30'	XXX

A4	STATISTICAL AREA SUMMARY
NTS	XXX

NORTH

0 60 120 180

GRAPHIC SCALE IN FEET

Luminaire Schedule

Label	Qty	Description	Lum. Lumens	LLF
GSK1	16	Canopy surface mounted, 13,000 lumen LED	13636	0.970
GSL1	2	Wall mounted, 4,100 lumen LED	4031	0.990
K7	26	Canopy surface mounted, 8,000 lumen LED	8821	0.970
K8	13	Canopy surface mounted, 13,000 lumen LED	13636	0.970
L3	8	Wall mounted, 4,100 lumen LED	4031	0.990
M1	5	Wall mounted, 2,000 lumen LED	1998	0.970
SA	10	Site light arm mounted, type 3 backlight control, 32,000 lumen LED, 20' pole	33272	0.810
SA1	2	Site light arm mounted, type 3, 43,000 lumen LED, 20' pole	44979	0.810
SB	2	Site light arm mounted, type 4 backlight control, 34,000 lumen LED, 20' pole	35737	0.810
SC	18	Site light arm mounted, type 5, 48,000 lumen LED, 20' pole	49910	0.810
SD	5	Site light double arm mounted, type 3, 43,000 lumen LED, 20' pole	44979	0.810
SF	1	Site light arm mounted, type 2 backlight control, 34,000 lumen LED, 20' pole	35738	0.810

B4	LUMINAIRE SCHEDULE
NTS	XXX

Statistical Area Summary

Label	Avg	Max	Min	Avg/Min	Max/Min
Driveway - Front Center	3.39	9.6	0.7	4.84	13.71
Driveway - Front Left	2.97	6.4	0.5	5.94	12.80
Driveway - Front Right	2.73	7.1	0.2	13.65	35.50
Driveway - Left Side	3.43	6.3	0.9	3.81	7.00
Driveway - Rear	2.42	8.6	0.1	24.20	86.00
Driveway - Right Side	2.24	5.4	0.4	5.60	13.50
Gas Station - Canopy	21.67	31.2	8.2	2.64	3.80
Parking - Left Side	3.02	9.8	0.5	6.04	19.60
Parking - Main	2.55	11.5	0.5	5.10	23.00
Parking - Rear	2.59	7.6	0.3	8.63	25.33
Storefront - Horizontal	5.37	13.5	0.6	8.95	22.50

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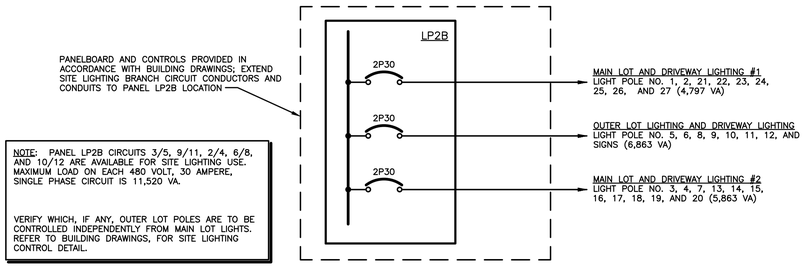
PHOTOMETRIC PLAN

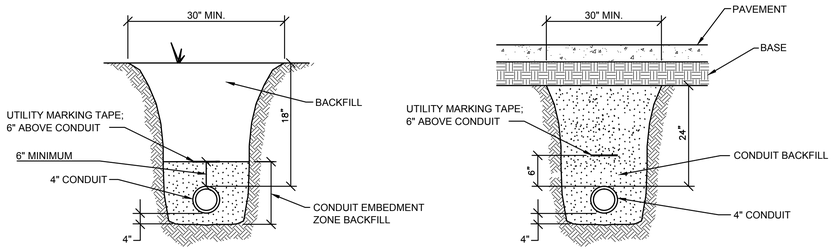
DRAWN BY	ISSUE	ISSUE DATE	SHEET NO.
KAC	1	05/14/15	C801

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485



B1 LUMINAIRE WIRING DIAGRAM

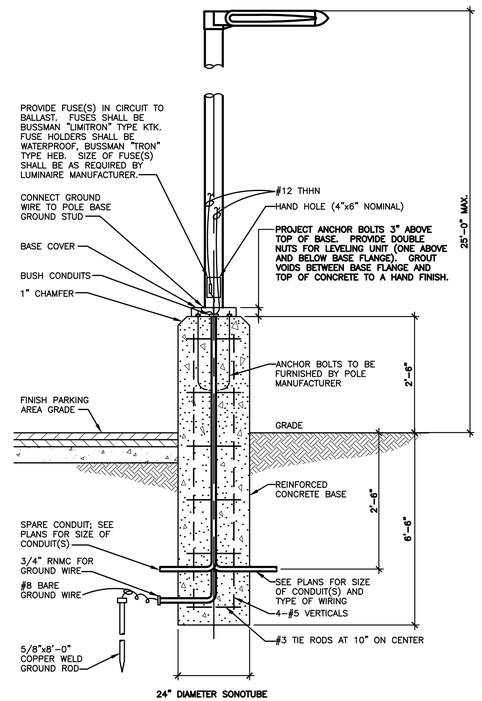
NTS



FOR MAIN POWER SERVICE AND COMMUNICATIONS LINES

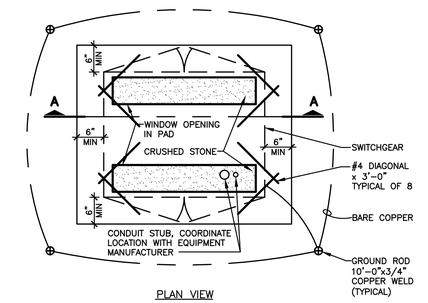
A1 UTILITY TRENCH

NTS

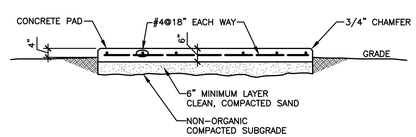


A3 RAISED CONCRETE LIGHTING BASE DETAIL

NTS



PLAN VIEW



SECTION A–A

NOTE: FOLLOW MANUFACTURERS DRAWINGS FOR SIZE AND ANCHOR BOLT SETTINGS

A4 PRIMARY SWITCH PAD DETAIL

NTS

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SITE ELECTRICAL DETAILS

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KAC	1	05/14/15	C802

CHECKED BY	MEIJER PROJECT NO.	WOOLPERT PROJECT NO.
BJH		74485